A South African University Funding Model and Its Contribution to Transformation Agenda

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Abstract

In this paper I report on a study which investigated a South African university funding model and its impact on the country's socioeconomic transformation agenda. The main objective of the study was to develop a South African university funding model that would align with the country's transformation agenda. The data presented in the paper were sourced using a combination of quantitative and qualitative research design methods. The quantitative approach involved 160 questionnaires, and 17 respondents participated in interviews as part of the qualitative research process. The respondents were purposively selected from six groupings which included the recently employed former National Student Financial Aid Scheme (NSFAS) funded students, Department of Higher Education and Training officials, NSFAS officials, Students' Representative Council (SRC) members, and officials employed in the finance divisions and registrar's offices at public universities in South Africa. The results demonstrated that amongst the various sources of funding for the South African university sector, government and NSFAS funding were significantly contributing to the transformation agenda in South Africa. The findings confirm the agency theory perspective that funding is a tool that governments use to entice universities towards the achievement of the transformation agenda.

Keywords: universities, government funding, equity, redress, transformation, performance-based funding

1. Introduction

University funding remains a topic of interest in the literature. There are variations in university funding models depending on the context of each country. The notable models implemented in many parts of the world range from a free education model to a fee funding model. The fee funding models are generally supported by some form of government funding or student loan schemes (Blackmur, 2023; Chiramba & Ndofirepi, 2023; Serfontein, 2025; Tjønneland, 2017). The loan scheme model has been tried in Africa, but there is no clear, explicit framework about the kind of loan scheme that is feasible in African countries because those that existed previously have been tinkered with as the recovery for the debt has been minimum (Oketch, 2023).

In South Africa, the change that happened with the NSFAS in January 2018, whereby the scheme was transformed from a loan system to a full bursary model, is a classic example of this tinkering. Bitzer and De Jager (2018) argued that this change was a consequence of the 2015–2016 #FeesMustFall campaign. This campaign and other related campaigns, such as #RhodesMustFall, provided South African university students a platform on which to raise matters related to transformation (Ntombana et al., 2023). The transformation agenda has remained a necessary imperative for the South African government because of the need to redress the imbalances of the pre-1994 political dispensation. As such, university funding by government tends to be used as a tool for transformation. For public universities in South Africa, transformation is taken so seriously that it is mandatory in their annual reporting (DHET, 2014).

Mngomezulu et al. (2017) and Naidoo and Mckay (2018) found that the transformation agenda in South Africa's higher education has often been described in terms of equity, access, and redress without paying particular attention to equity of participation and success for all students. Although transformation is often compliance driven, it is chiefly regarded as a catalyst to address historic socioeconomic imbalances (Musonda et al., 2019). It is remarkable that in countries where the government wants to use university funding to drive its agenda, the funding models are dominated by government subsidies and equity-based funding (Blackmur, 2023; Mbhalati, 2024). Typical examples

of equity-based funding include the Pell Grant in the United States (Li, 2019) and the JACO in Japan (Kakuchi, 2018). In South Africa, the NSFAS could be described as a form of equity-based funding. This view is also reflected by Chiramba and Ndofirepi (2023), who found that the NSFAS has had a positive impact on the funded students' education and their families' well-being. Although the NSFAS has become a social protection higher education funding mechanism, there is a view amongst scholars (Whitelaw & Branson, 2024) that the generous financial benefits offered to students through the NSFAS are not producing the desired effect with regard to transformation. The low levels of equity of success that students from poor communities face exacerbate the transformation challenges in South Africa. In fact, Marwala and Mpedi (2022) observed that the problem was worse with science, technology, engineering, and mathematics programmes. In countries facing fiscal strains, the adoption of output or performance-based funding (PBF) seems a viable alternative in terms of government funding (Elbasir & Siddiqui, 2018).

Performance-based funding is seen as a shift from a state funding system where institutions are funded based on the number of students enrolled (input funding) to a system where institutions are funded based on a PBF formula (Jongbloed & Vossensteyn, 2016). Performance indicators relating to transformation can be included in a PBF model so that university funding aligns with government agenda. Scholars have noted the agency theory as the theory of action behind PBF (Alshehri, 2016; Doh & Doh, 2013; Paul et al., 2020). The agency theory can be traced to the 1960s and 1970s, whereby its theoretical basis goes back to the 1776 seminal work of Adam Smith, The Wealth of Nations (Bendickson et al., 2016). When applied in higher education, the theory informs the view that government as principal tends to push universities (as agents) towards the specific agenda of government by linking amounts of government funding to university performance indicators. The aim of this study was to investigate a typical South African university funding model that would align with the country's transformation agenda. Therefore, the study was guided by the following research question:

(1) What model of higher education funding can the university sector of South Africa implement to achieve the country's transformation agenda?

In addressing the above research question, I structured the following objectives:

(1) To evaluate the impact of the existing university funding model on the socioeconomic transformation agenda of South Africa (Research Objective 1)

(2) To develop an appropriate funding model for the public university sector of South Africa to ensure achievement of the country's transformation agenda (Research Objective 2)

2. Methodology

The study followed a pragmatic research approach with a mix of qualitative and quantitative methods. In line with the pragmatic research approach, data from quantitative questionnaires were complemented and triangulated with data from interviews. Deliberate sample selection, a typical purposive sampling technique was followed in deciding the maximum sample size for the participants. Respondents were selected by virtue of their knowledge or experience of the phenomenon being investigated (Etikan et al., 2016). The quantitative questionnaire was structured mainly in a five-point Likert scale format. There was an open-ended question (Q3.2) which required the respondents to elaborate on whether they thought the existing South African university funding model was contributing to the transformation agenda. The reliability of the Likert scale questionnaire was tested using Cronbach's alpha. Although alpha values of 0.7 and above are considered desirable, a reliability coefficient of 0.60 or higher is considered 'acceptable' for a newly developed construct (Rožman et al., 2020; Shrestha, 2021; Taber, 2018). The reliability scores for all 25 Likert scale items under research constructs Q4.1 to Q4.5 were within the recommended Cronbach's alpha value. These scores are shown in Table 1.

Table 1. Reliability testing using Cronbach's alpha

Section	Construct	Number of Items	Cronbach's Alpha
Q4.1	Government funding	5	0.697
Q4.2	Self-funding by students and their families	5	0.631
Q4.3	Corporate and external funding	5	0.710
Q4.4	NSFAS funding [equity-based]	5	0.747
Q4.5	Universities' own commercial activities	5	0.771
All items included		25	0.876

Source: Table developed by researcher based on SPSS data.

In contrast, the validity of the Likert scale questionnaire was tested using exploratory factor analysis. Factor analysis can be used to establish whether the measures assess the same thing so as to streamline the variables prior using them in a multi regression or multivariate analysis. To determine whether factor analysis was suitable in the study, the Kaiser–Meyer–Olkin measure of sampling adequacy and Barlett's test of sphericity were employed. All conditions for factor analysis were satisfied because the Kaiser–Meyer–Olkin measure of sampling adequacy value was greater than 0.60, and Bartlett's test of sphericity (sig. value at 0.000) was less than 0.05 (Shrestha, 2021). Principal component analysis (PCA) was used as the factor extraction method, and the rotation method was varimax with Kaizer normalisation. The results of the PCA are shown in Appendix A. PCA shows the highest contributors to the dataset, these being variables with loadings at coefficients of 0.5 and higher, signifying principal components (essential subthemes) of the questionnaire variables (Greenacre et al., 2022). After analysing the variables which loaded at coefficient of 0.5 and higher, nine subthemes as listed in Table 2 were identified.

Table 2. Subthemes arising from exploratory factor analysis

Subtheme	Correlated variables per coefficients loading at 0.5 and higher
Subtheme 1: Government funding efficiency, effectiveness, and alignment with the transformation agenda	Q4.1.1 (0.654), Q4.1.2 (0.532), Q4.1.3 (0.686), Q4.1.4 (0.556)
Subtheme 2: Student financial support strategies	Q4.2.2 (0.457), Q4.2.3 (0.449), Q4.2.4 (0.700)
Subtheme 3: Educational equity and transformation policy impact	Q4.2.1 (0.774), Q4.2.5 (0.476)
Subtheme 4: Targeted financial intervention strategies	Q4.3.3 (0.561), Q4.3.4 (0.625)
Subtheme 5: Broad-based funding impact and merit recognition	Q4.3.1 (0.754), Q4.3.2 (0.519), Q4.3.5 (0.734)
Subtheme 6: NSFAS as a transformational funding framework	Q4.4.2 (0.568), Q4.4.3 (0.510), Q4.4.5 (0.609)
Subtheme 7: NSFAS academic merit support	Q4.4.4 at coefficient of 0.605
Subtheme 8: Commercial and academic funding synergy	Q4.5.1 (0.610), Q4.5.2 (0.678), Q4.5.3 (0.771), Q4.5.5 (0.751)
Subtheme 9: Debt-mitigating funding initiatives	Q4.5.4 at a coefficient of 0.580

Coefficient loadings at 0.449 to 0.499 convert to 0.5.

Source: Analysis by researcher based on results of exploratory factor analysis.

In total, 533 questionnaires were despatched to the participants. The response rate was 30.02% because 160 questionnaires were completed and returned. This response rate is within the acceptable range of 30% to 70% for social sciences research (Ali et al., 2021 and De Vaus, 2013). Of the 533 questionnaires, 385 were sent to NSFAS final-year students; 40 were sent to recently employed former NSFAS funded students, university finance officials, and officials at registrars' offices; and 20 were sent to SRC members. Six and two questionnaires were sent to DHET and NSFAS officials, respectively. The questionnaire was sent to the respondents as a web link. The appropriate

ethical clearance procedures were followed. Approximately two-thirds of the respondents (64.4%) were still students, with nearly a quarter (23.1%) linked to administrative positions and 12.5% being recently employed former NSFAS-funded students. In terms of the age groupings, 61.9% were younger than 25 years, 20% were between 25 and 35 years, 10.6% were between 36 and 45 years, and 7.5% were older than 45 years. The majority of respondents (67%) had a postschool qualification, with the remaining respondents working towards their undergraduate qualification (33%). These data demonstrate that the responses gathered would have been from an informed (learned) source. Seventeen respondents were purposively selected to participate in the interview process. These were composed of six DHET officials, four officials from universities representing the finance (two) and registrar divisions (two), three SRC members, two from the recently employed former NSFAS-funded students group, and two from the final-year NSFAS funded student group. The six respondents from DHET participated in a focus group discussion in line with the request made by their senior management.

The data from the quantitative questionnaires were analysed using both descriptive and inferential statistics (incorporating Chi-square tests) through SPSS version 29.0, whereas data from the interviews were analysed using the five steps of qualitative data analysis as identified by Akinyode and Khan (2018). Given the multiplicity and complexity of the data generated from the Likert scale questionnaires, a structural equation model (SEM) was considered an appropriate technique because of the large intervening variables (Hair Jr et al., 2021). The AMOS software was used for generating the SEM.

3. Findings

In the presentation of the research results, Figures 1 to 5 show the graphical presentation of the distribution of responses in terms of the Likert scale for research constructs Q4.1 to Q4.5. The SEM for the study is shown in Figure 6. The findings are hereby discussed in line with the study's research objectives.

3.1 The Transformational Impact of Existing South African University Funding Model (Objective 1)

The researcher identified five main funding sources in the existing South African university funding model from an extensive literature review. These included (i) government funding (grants and subsidies), (ii) student fees (iii), corporate and external funders, (iv) NSFAS funding, and (v) income from universities' own commercial activities. The researcher tested the impact of these funding sources on the transformation agenda in South Africa in both the quantitative questionnaire (Q3.1 and Q3.2) and the interviews (Q1.1, Q1.2, and Q1.3). An analysis of data for Q3.1 has revealed that twice as many respondents (66.3%) believed that the existing university funding model contributed to the socioeconomic transformation agenda of South Africa. Responses in Q3.2 show that out of the 160 respondents, 34 (21%) believed that the existing university funding model enhanced access to higher education, although 44 (28%) of the respondents felt some funding challenges 'still need' to be resolved for the funding model to be a more efficient and effective tool for transformation. A total number of 35 (22%) out of the 160 respondents viewed the NSFAS bursary scheme in the existing funding model as valuable and appropriate in providing funding support to students. The preceding analysis could be summarised in two main themes: (i) the existing funding model enhances access to higher education; and (ii) the NSFAS bursary scheme plays a valuable role in the funding model.

3.1.1 The Existing Funding Model Enhances Access to Higher Education (Theme 1)

The theme of 'The existing funding model enhances access to higher education' is also reflected in the analysis of data from the interviews. In the focus group discussion with the DHET officials, all six participants agreed that the existing university funding model was contributing positively to the socioeconomic transformation agenda of the country. One of the DHET respondents, a director, believed that the grants given to public universities by the government were a way of enticing them to play an active role in the transformation agenda. The DHET director also expressed a view that DHET was 'now' addressing the problem of high dropout rates at public universities. One of the deputy directors supported this perspective and commented that 'as DHET we have funding in the form of the Foundation Grant to fund (students doing) extended programmes (Bridging programmes) for students at risk of dropping out particularly those from historically disadvantaged universities'. The challenge of high dropout rates by students from previously disadvantaged communities has been well documented in the literature (De Jager & Baard, 2019; Letseka & Maile, 2008; Wanti et al., 2022). Finance Official 2 expressed the most telling response:

The university funding model (in South Africa) has afforded an opportunity to previously disadvantaged students from poor backgrounds who would not have made it to university. If the public-funded university funding model were not in place, unemployment rate would have been worse.

The second final-year NSFAS-funded student respondent echoed a similar view. Nevertheless, the first respondent from the registrar's office provided a more sceptical response. The respondent's main concern was the exclusion of

the missing middle group of students from NSFAS funding. The exclusion of certain groups of students (namely, the missing middle) from funding was also reflected in interviews with the SRC members. Out of the three SRC respondents, two were adamant that the university funding model was not as effective in its contribution to the transformation agenda of South Africa. The other respondent (SRC Interviewee 3) commented on the challenges that NSFAS-funded students face when indicating that 'NSFAS faces challenges such as bureaucratic inefficiencies, delays in disbursements and insufficient coverage'. Despite some scepticism by SRC interviewees, the overwhelming view was the response of the first final-year NSFAS-funded student respondent as follows:

The university funding model in South Africa does contribute to the transformation agenda to some extent. For example, through government grants and the NSFAS, more students from low-income backgrounds are able to access higher education.

The above view has also received support in empirical studies by Govinder et al. (2013), Tjønneland (2017), and Wildschut et al. (2020).

3.1.2 The NSFAS bursary scheme plays a valuable role in the Funding Model (Theme 2)

The data from the quantitative questionnaire confirmed the strategic role of the NSFAS bursary system in the South African university funding model. Based on the interviews, there were mixed views regarding the role of NSFAS in the transformation agenda. In the comment by the DHET director, it was apparent that the DHET was heavily invested in the NSFAS scheme. The DHET director succinctly indicated that 'NSFAS is playing a big role in socio-economic transformation agenda'. According to one of the DHET assistant directors, the 'NSFAS was bigger than private funders'. However, the DHET interviewees were concerned about the financial sustainability of the NSFAS and the inappropriate use of NSFAS allowances by students. Mngomezulu et al. (2017) also noted the inappropriate use of NSFAS allowances by students to alleviate the poverty of their families. Despite this, Finance Official 2 highlighted that the 'NSFAS has opened the doors of learning and made higher education more accessible, particularly for students from poor backgrounds'. This view has also been supported by two of the three SRC interviewees and one of the respondents from the recently employed former NSFAS-funded student group.

It is apparent that when it comes to increasing access to universities, the NSFAS was playing a strategic role. However, some respondents (SRC Interviewee 3, second final-year NSFAS-funded student, Finance Official 1, and the two recently employed former NSFAS-funded students) felt there were serious challenges facing NSFAS which negatively affected its ability to contribute to the transformation agenda. Several scholars have raised the matter of administrative challenges that the NSFAS faces, including Matyana et al. (2023). In addition to administrative challenges, Naidoo and Mckay (2018) noted that the NSFAS was hampered by significant funding shortfalls and financial exclusions. In similar studies researchers have concurred with the above (Ayuk & Koma, 2019; Mngomezulu et al., 2017; Sader & Gabela, 2017).

3.2 A South African University Funding Model for the Transformation Agenda (Objective 2)

The five constructs tested in line with Research Objective 2 are shown in Table 1, and the individual research items are shown in Appendix A. In this section of the paper, I analyse the importance of each construct as explained in terms of five research items based on the 160 respondents' views.

3.2.1 Government Funding (Construct 4.1)

Government funding for universities in South Africa is composed mainly of a block grant system supported by earmarked grants (McLaren & Struwig, 2019). In this construct, government funding is defined in terms of subsidies and grants, excluding NSFAS funding. The NSFAS as part of the earmarked grants was tested separately (in construct 4.4). The research results for the five variables testing the construct government funding are summarised in **Figure 1**.

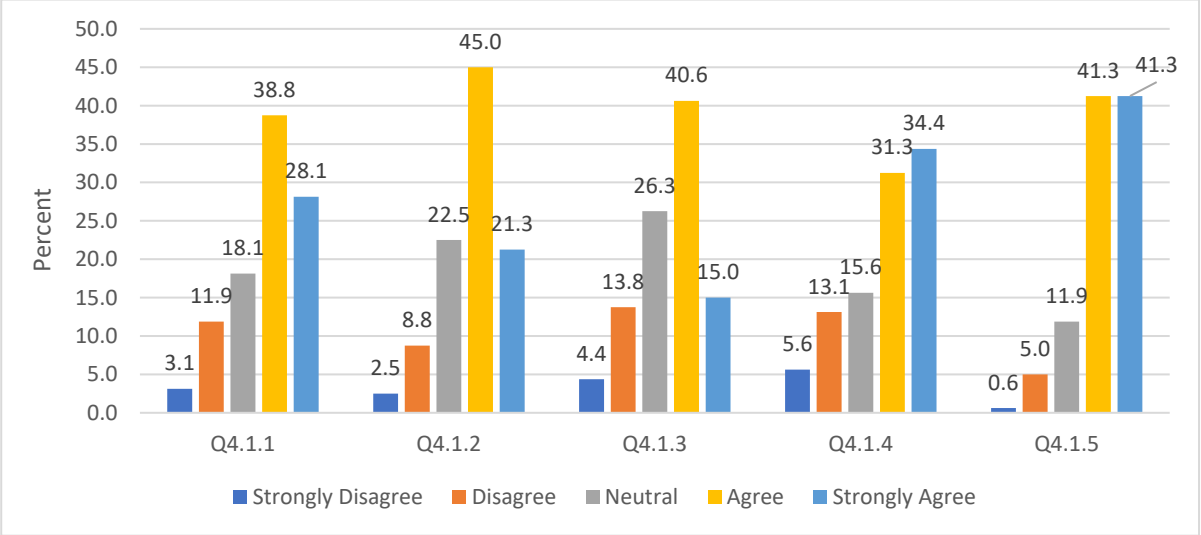

Figure 1. Respondents' views on statements relating to government funding

Source: Calculated and analysed by the researcher using SPSS.

In each statement, the responses tend to shift towards Agree and Strongly Agree, suggesting strong support and a positive impression by the respondents for government funding. This is consistent with subtheme 1 in factor analysis, aptly named, 'Government funding efficiency, effectiveness and alignment with transformation agenda'. The subtheme arose from the high correlations amongst items in Q4.1.1, Q4.1.2, Q4.1.3, and Q4.1.4.

It is surprising that 66.9% of the respondents (as in Q4.1.1) were of the view that government was implementing a fully subsidised higher education in South Africa. In previous studies in South Africa, researchers have cast doubt on the feasibility of free higher education (De Jager & Baard, 2019; Wangenge-Ouma, 2021). To determine whether the scoring patterns were significantly different per option, a Chi-square goodness-of-fit test was performed. The p-values in the Chi-square testing for all the five items are less than 0.05 (at Asymp. Sig <0.001). This implies that the observed patterns in response distributions were highly unlikely to be due to chance, suggesting that there were real differences in the opinions of the respondents regarding these aspects of university funding.

3.2.2 Self-funding by Students and their Families (Construct 4.2)

Construct Q4.2 relates to income generated by universities from student fees. Student fees are mainly paid directly to universities by the students, their families, or both. The results of the responses for the five research items under this construct are highlighted in Figure 2.

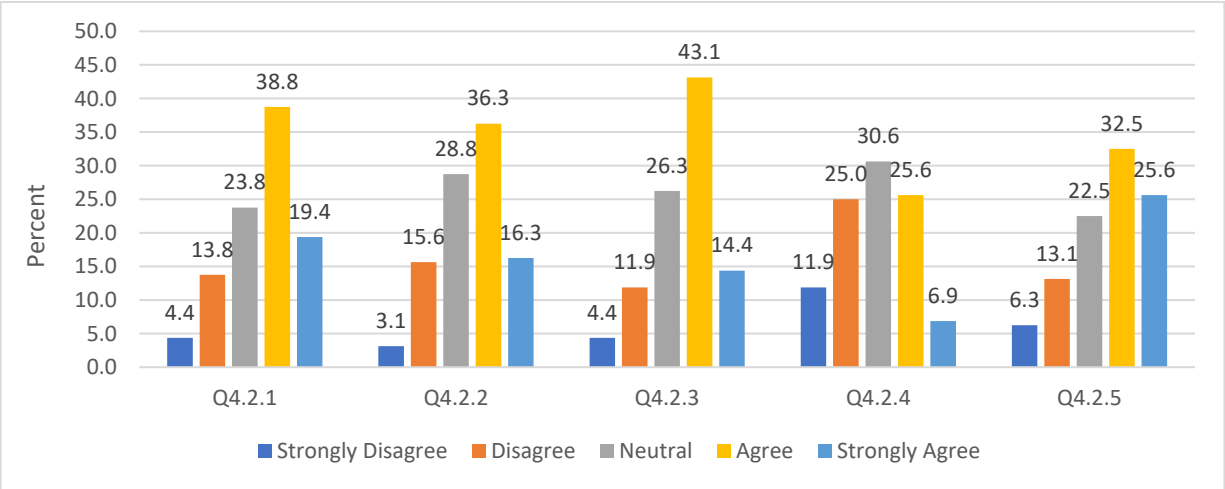

Figure 2. Respondents' views on statements relating to Q4.2

Source: Calculated and analysed by the researcher using SPSS.

In the factor analysis presentation, two components (subthemes) were identified for this question. These are called 'Student Financial Support Strategies' (subtheme 2) and 'Educational Equity and Transformation Policy Impact' (subtheme 3). Subtheme 2 is represented by items in Q4.2.2, Q4.2.3, and Q4.2.4. This name ('Student Financial Support Strategies') captures the essence of universities' efforts to provide financial assistance, whether through subsidized living allowances, funding mechanisms for needy students, or the cancellation of historic debt, which all contribute to the overarching transformation agenda within the higher education sector. In line with subtheme 2, items in Q4.2.2, Q4.2.3, and Q4.2.4 show a majority of respondents either agreeing or strongly agreeing with the statements. This indicates a recognition of the necessity and positive impact of financial support strategies implemented by universities to support self-funded students.

However, there is a notable level of neutrality (30.6%) and disagreement (36.9%) for Q4.2.4, indicating some contention or uncertainty about the effectiveness of measures aimed at solving historic debt. This uncertainty is consistent with a similar study by Mngomezulu et al. (2017). The remaining two items, Q4.2.1 and Q4.2.5, which deal with the broader impact of funding on access to education and its potential transformational effects, are broadly named, 'Educational Equity and Transformation Policy Impact' (subtheme 3). The responses for these items are more varied, with a significant number of respondents remaining neutral (23.8% for Q4.2.1 and 22.5% for Q4.2.5). This neutrality suggests that although there is an inclination to agree that being self-funded does not adversely affect transformation and that academically performing students are not denied access to university education based on their inability to pay fees, there is still some uncertainty or lack of consensus on these issues. The Chi-Square p-values for all items are less than 0.001, revealing that the distribution of the responses for each statement continues to be statistically significant.

3.2.3 Corporate and External Funders (Construct 4.3)

Factor analysis revealed two subthemes for the statements in Q4.3, namely 'Targeted Financial Intervention Strategies' (subtheme 4) and 'Broad-based Funding Impact and Merit Recognition' (subtheme 5). In line with subtheme 4 'Targeted Financial Intervention Strategies', Q4.3.3 and Q4.3.4 relate to targeted financial support provided by corporate and external funders, particularly addressing the needs of the missing middle students and the problem of historic debt. Subtheme 5, which is represented by Q4.3.1, Q4.3.2, and Q4.3.5, addresses the broader contribution of corporate and external funders to educational transformation, the impact of merit-based versus need-based support, and their contribution to the success of students from poor backgrounds. Figure 3 shows the data for Q4.3.

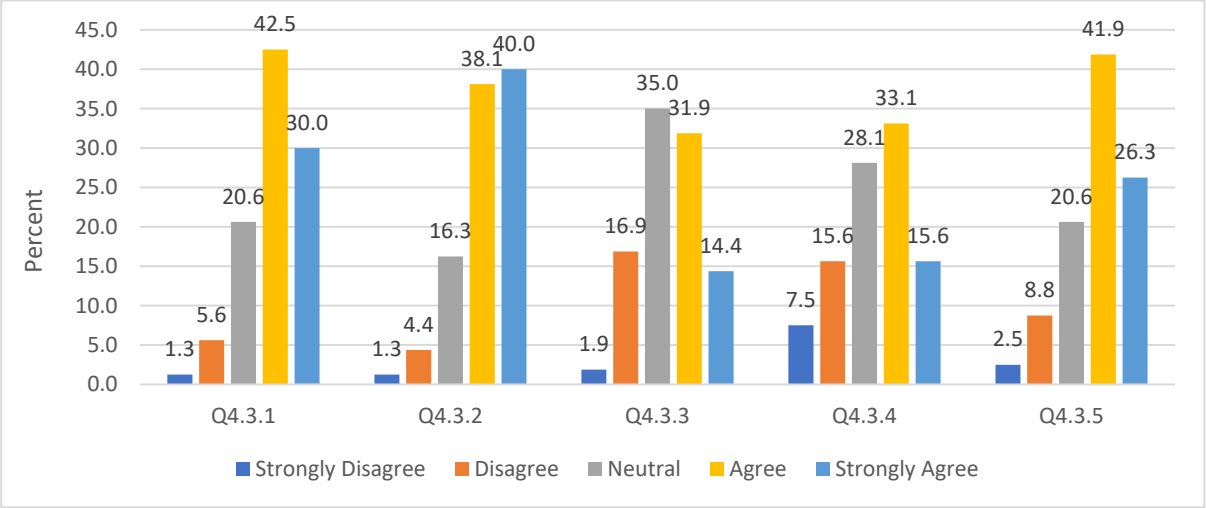

Figure 3. Respondents' views on statements reflecting Q4.3

Source: Calculated and analysed by the researcher using SPSS.

The data for Q4.3.3 reveal that 46.3% (31.9% 'agreed' and 14.4% 'strongly agreed') agreed that corporate and external funders provided financial support for the missing middle students. Although Q4.3.4 garnered 48.7% respondents (33.1% 'agreed' and 15.6% 'strongly agreed') who agreed that corporate and external funders targeted the problem of historic debt for academically deserving needy students, the proportion of respondents who indicated neutral (28.1%) was higher. The higher 'neutral' responses for Q4.3.3 (35.0%) and Q4.3.4 (28.1%) may suggest that

this group of respondents was not convinced that corporate and external funders were doing enough to address the problem of historic debt and support the missing middle students. The responses to the items (Q4.3.1, Q4.3.2, and Q4.3.5) which related to the subtheme of 'Broad-based Funding Impact and Merit Recognition' were generally higher in terms of levels of agreement for these questions. Naidoo and Mckay (2018) found a positive correlation between academic performance and merit-based bursaries. An analysis of the Chi-square p-values for all the variables in Q4.3 has revealed that the distribution of the responses are statistically significant at p-values less than 0.001.

3.2.4 NSFAS as Equity-based Funding (Construct 4.4)

Two subthemes were identified from factor analysis for the variables in Q4.4. The first of those subthemes (subtheme 6) was named 'NSFAS as a Transformational Funding Framework'. The second, subtheme 7 ('NSFAS Academic Merit Support') highlights the role of NSFAS in supporting academically talented students who are economically disadvantaged, emphasising the importance of merit alongside financial need in the provision of funding. Subtheme 6 is represented by Q4.4.2, Q4.4.3, and Q4.4.5, which are related to NSFAS' impact in addressing historic student debt, aiding the missing middle, and overall alignment with the government's transformation agenda. This subtheme captures the broad scope of NSFAS' funding initiatives, which are designed to alleviate financial burdens of students from disadvantaged backgrounds and advance the transformation goals within higher education. The data for Q4.4.1 to Q4.4.5 are reflected in Figure 4.

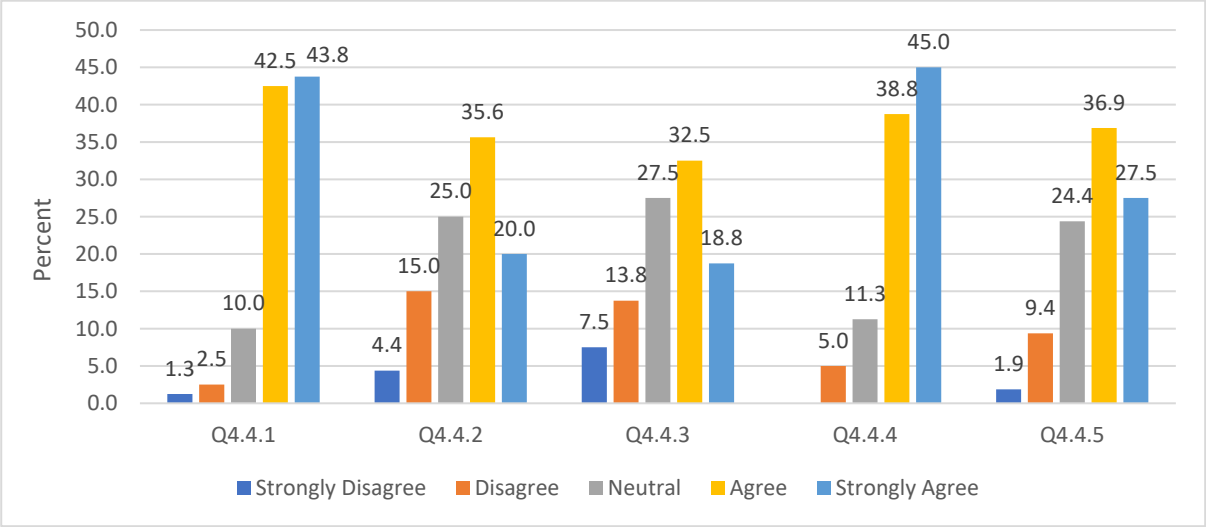

Figure 4. The respondents' views on statements in Q4.4

Source: Calculated and analysed by the researcher using SPSS.

In Q4.4.2, the level of agreement is 55.6% (35.6% agreed and 20.0% strongly agreed). When analysed together with the 25.0% of the respondents who were 'neutral', this may suggest that respondents were not as strongly convinced that NSFAS had funding mechanisms in place to address the problem of historic debt for academically deserving needy students. Data from the interviews also show that the NSFAS has been found wanting on this.

It is apparent that in Q4.4.3, respondents held similar sentiments. Only 51.3% of the respondents agreed that NSFAS had funding mechanisms in place to address the needs of missing middle students. It is apparent that although the majority of the respondents agreed with the role of the NSFAS as a Transformational Funding Framework, the levels of 'neutral' responses as recorded in Q4.4.2 (25%), Q4.4.3 (27.5%), and Q4.4.5 (24.4%) may suggest that a sizeable number of the respondents had doubt about this. This could be linked to the result of the data from the interviews where interviewees from the various categories of respondents were sceptical about NSFAS because of its continuing administrative challenges. Mlambo et al. (2022) also found significant levels of doubt by respondents on the effectiveness of the NSFAS funding framework, particularly with regard to addressing the funding challenges of the missing middle students. For Q4.4.4, which represents subtheme 7, the level of agreement for this item is relatively high at 83.8% (38.8% 'agreed' and 45% 'strongly agreed'). Similarly, there are high levels of agreement for responses in Q4.4.1 (86.3%). Though not loading strongly in the PCA table for factor analysis, at a coefficient of 0.428, item Q4.4.1 reflects the specific focus of the impact of NSFAS allowances on students' timely completion of studies. Mlambo et al. (2022) and Naidoo and Mckay (2018) have also recognised this. The Chi-square p-values for

all items in Q4.4 are less than 0.001. This demonstrates that the distribution of the responses for each statement in Q4.4 was statistically significant.

3.2.5 Funds from Universities' Own Commercial Activities (Construct 4.5)

Factor analysis identified two subthemes for the variables in construct Q4.5. The four items (Q4.5.1, Q4.5.2, Q4.5.3, Q4.5.5) share a theme around the use of commercial activities and special funding projects to support students financially and enhance the completion rates of students from poor backgrounds. A suggested name for this component as revealed in factor analysis is 'Commercial and Academic Funding Synergy' (subtheme 8). The single item Q4.5.4, which focuses on special funding projects addressing the issue of historic debt, has a suitable component name 'Debt Mitigation Funding Initiatives' (subtheme 9). This title reflects the targeted approach of universities' special projects to alleviate the financial burdens of historic debt, an important aspect of supporting students' educational continuity. The responses for Q4.5.1 to Q4.5.5 in construct 4.5 are presented graphically in Figure 5.

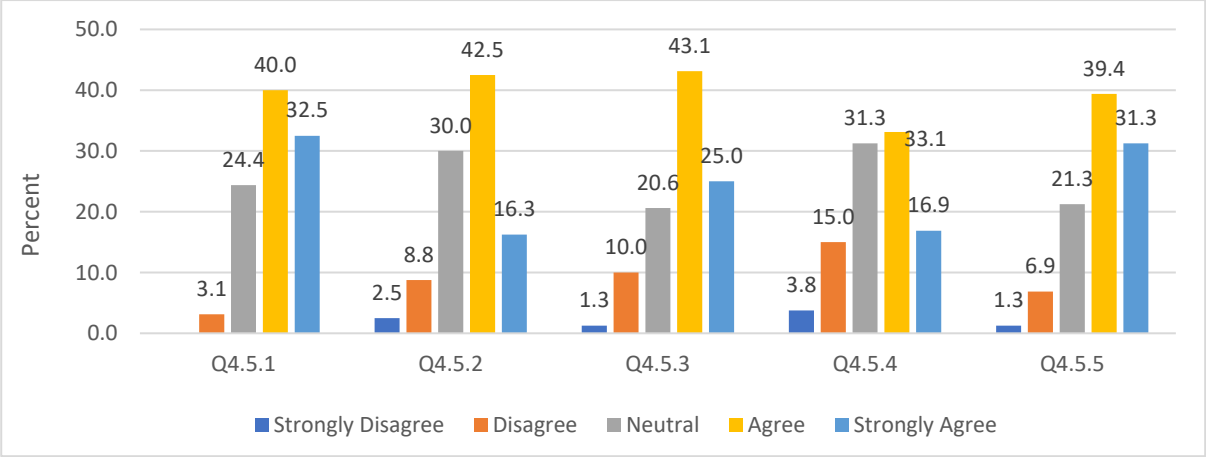

Figure 5. Respondents' views on statements reflecting Q4.5

Source: Calculated and analysed by the researcher using SPSS.

In Q4.5.1, the level of agreement is at 72.5%. Nevertheless, 24.4% of the respondents indicated 'neutral' regarding the statement that 'commercial activities are an essential income source for a university that is committed to the transformation agenda'. The neutral responses may be an indication that although these respondents were not at a point to disagree, they were not so confident to shift their responses to the agreement levels. Wangenge-Ouma and Kupe (2020) observed challenges in generating commercial income at most universities in South Africa. In Q4.5.2, the level of agreement is at 58.8% (42.5% agreed and 16.3% strongly agreed). The effect of the 30.0% 'neutral' responses is apparent for Q4.5.2, which is an indication that a sizeable proportion of the respondents were having misgivings on whether 'Public universities in South Africa use funds generated from commercial activities to provide financial assistance to the missing middle students'. In Q4.5.3, the level of agreement is at 68.1%, whereas that of Q4.5.5 is at 70.7%. The level of agreement for Q4.5.4 is below 50% (33.1% agreed and 16.9% strongly disagreed). It appears that a majority of the respondents had doubt that 'universities' special funding projects also target the problem of historic debt'. Similarly, Moolman and Jacobs (2018) noted that the practice of universities utilising their own funds to assist students was not prevalent in South Africa because most universities relied heavily on government funding. The distribution of the responses for Q4.5 appears statistically significant based on the Chi-square testing (recorded p-value less than 0.001).

3.3 Critical Variables in a South African University Funding Model

To assess the most critical variables which could make the South African university funding model far more aligned to the country's transformation agenda, I analysed the results of the structural equation modelling based on the data from the Likert scale questionnaire. With correlation ranging from 0 to 1, values closer to 1 indicate stronger relationships between latent variables (Streiner, 2006). I excluded those variables which demonstrated weaker correlations from the SEM. The results are presented in Figure 6.

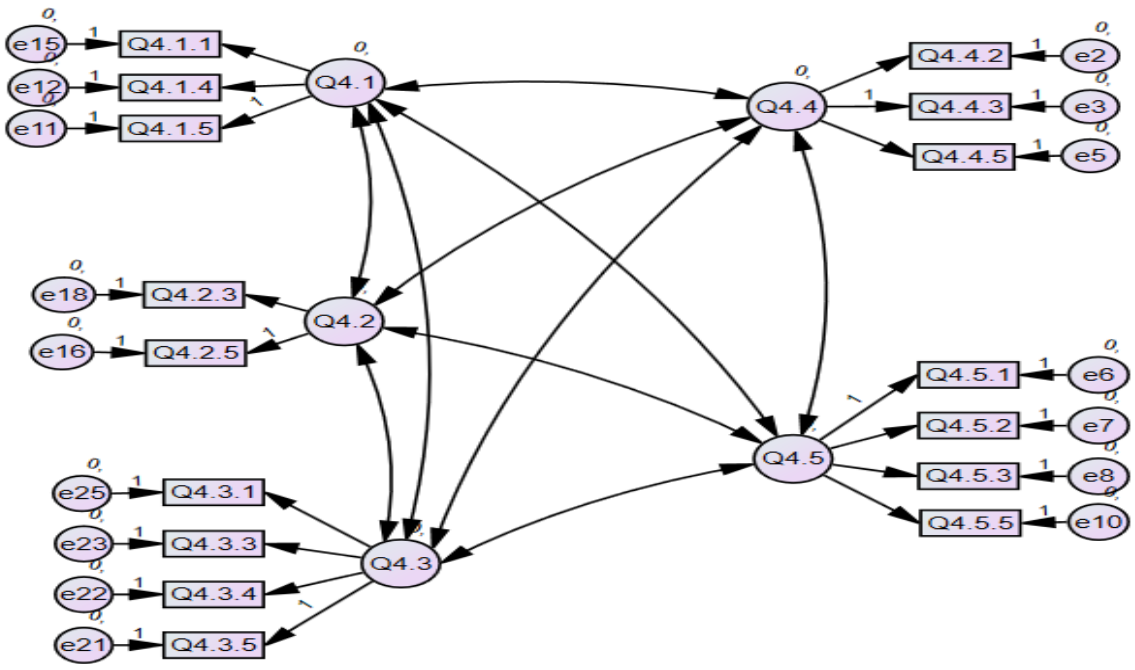

Figure 6. The Structural Equation Model

Source: Model generated through AMOS.

The SEM identified three variables (Q4.1.1, Q4.1.4, and Q4.1.5) which have a significant impact on Q4.1, two variables (Q4.2.3 and Q4.2.5) in Q4.2, four variables (Q4.3.1, Q4.3.3, Q4.3.4, and Q4.3.5) in Q4.3, three variables (Q4.4.2, Q4.4.3, and Q4.4.5) in Q4.4, and four variables (Q4.5.1, Q4.5.2., Q4.5.3, and Q4.5.5) in Q4.5. Research items Q4.4.4 and Q4.5.4, which respectively represent subtheme 7 (NSFAS as an academic merit support fund) and subtheme 9 (debt-mitigation funding initiatives), were unable to load significantly in the SEM and are therefore excluded from the final model.

4. Discussion

The seven subthemes which emanated from the SEM are also supported by data from the literature and interviews. In fact, in terms of subtheme 1 'Government funding efficiency, effectiveness and alignment with the transformation agenda', the importance of government funding in the transformation agenda is well established in the literature (Garrod & Wildschut, 2021; Kakuchi, 2018; Mgaiwa, 2018). Hence, the efficiency and effectiveness of government funding is considered important in a funding model for public universities in South Africa. This subtheme is further complemented by subtheme 2, 'Student financial support strategies'. Similarly, the idea of equity-based funding, which aligns to subtheme 3 'Educational equity and transformation policy impact, enjoys widespread support in the literature. In line with Q4.2.5, which reinforced subtheme 3, Barr (2004) argued that academically brilliant students should not be excluded from universities on the basis of their inability to pay. Subtheme 4, 'Targeted financial intervention strategies', reflects the challenges of historic debt and the missing middle students. These challenges also came strongly in the interviews. As noted in the literature, student debt and the missing middle students remain key funding challenges that university students in South Africa face (Bitzer & De Jager, 2018; Chawula, 2021; Wangenge-Ouma, 2021). Hence, targeted financial intervention strategies to address these challenges are imperative in a South African university funding model. Furthermore, subtheme 5, 'Broad-based funding impact and merit recognition', is also covered in the literature in that it is established that for universities to be financially sustainable, they are expected to tap into various funding sources (Abankina et al., 2017; Aziz & Rahman, 2017; Makoni, 2017; Ndlovu, 2020).

The findings from the study show that the NSFAS is a key funding mechanism for students from poor families in South Africa. This aligns to subtheme 6, 'NSFAS as a transformational funding framework'. Nevertheless, the problems of historic debt, the missing middle students, and the administrative challenges in the NSFAS reflected strongly throughout the empirical study. In fact, the statements, namely Q4.2.4, Q4.3.3, and Q4.3.4 in the questionnaire which revolved around the matters of historic debt and the missing middle students, returned the

lowest levels of agreement in the data analysis. This study's findings have implications for both theory and policy. Notably, despite consistent administrative challenges, the NSFAS has been found to be a viable funding instrument for South African university students, particularly those from poor families. The problem with NSFAS is its history of administrative challenges. Though the NSFAS was under administration from 2018 to 2020, the entity did not appear cured of its historic administrative challenges. In 2023, the NSFAS was again in the news with allegations of corruption and the late payment of allowances to students. As a result, the DHET minister appointed an interim chairperson in 2024.

The challenges that the NSFAS faces demonstrate that, in its current form, the entity would struggle to shake off its administrative challenges. Therefore, I recommend that the NSFAS be made independent of the DHET and be run similar to Chapter 9 institutions. The success of the auditor–general bears testimony that a Chapter 9 institution-model run by suitably qualified people is the better option for the NSFAS. The Office of the Public Protector is another example where success and credibility were its hallmark while run by an independent and suitably qualified public protector, Professor Thuli Mandosela. The study also has implications relating to the missing middle students. As such, this researcher argues that the funding model whereby the NSFAS only focusses on students whose family income is not exceeding R350 000 needs to be revised. One way of better achieving this is to increase the NSFAS funding threshold annually by the inflation rate. In fact, the R350 000 does not consider the time value of money. A R350 000 in January 2018 would have a far higher purchasing power than the same amount in January 2024. Another alternative is the sliding scale funding formula that Garrod and Wildschut (2021) proposed, whereby students would progressively receive less NSFAS funding as their family income approaches R600 000 (currently considered the upper limit for the missing middle students).

In January 2024, the minister of DHET announced the introduction of a contingent loan scheme for the missing middle students. Although the practical implementation of the new loan scheme is not yet tested, I insistthat the scheme should be broadened to cover students' historic debt. The findings from this study have policy framework implications with regard to the South African university funding formula. The New Funding Framework (NFF), which has been in implementation since 2004, could be amended to include a university location factor in the Block grant calculation to provide additional government funds for those universities located in poorer and disadvantaged communities. These findings also align with the United Nations' Agenda 2030, Sustainable Development Goals (SDGs), in terms of SDG 4, which recognises the importance of equitable access to education for people from historically disadvantaged backgrounds (Klees, 2024).

5. Conclusion

By relying on empirical data collected through a combination of a quantitative questionnaire and interviews, in this paper I have addressed all the stated research objectives. The impact of the existing university funding model on the transformation agenda in South Africa has been empirically tested. The majority of the respondents viewed government and NSFAS funding as the most critical funding sources in a South African university funding model. Nevertheless, the data confirmed that NSFAS as a funding platform was riddled with administrative challenges which negatively affected its effectiveness as a tool for the transformation agenda. The findings reflected in this paper could be limited to the context of the public universities in South Africa because the data were collected from respondents in South Africa. Future studies could provide a holistic approach by examining university funding in other countries. The recommendations arising from this research is that the South African university funding model should incorporate additional equity-measures to become more transformative. These could include measures addressing the challenges of the missing middle students and students with historic debts. There should also be measures in place to cushion the NSFAS from political and administrative challenges by improving its governance mechanisms. Furthermore, the NFF formula that the South African government has used since 2004 to fund public universities deserves regular review to ensure it addresses the current funding challenges that universities in South Africa face.

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Appendix A

Rotated Component Matrix for the 25 Research Items

		Components				
Variable/Statement	Tested	1	2	3	4	5
The government implements a fully subsidised funding model (free higher education).	Q4.1.1	0.117	0.654	0.222	0.088	-0.051
Public universities are funded based on their capacity to achieve specific performance outcomes aligned to government's transformation agenda.	Q4.1.2	0.147	0.532	0.197	-0.019	0.193
Public universities receive higher allocations (amounts) for qualifications considered as scarce skills to transform key sectors of the economy.	Q4.1.3	-0.120	0.686	0.097	0.048	0.320
The current funding allocations for public universities are appropriate to increase access to universities for students from poor households.	Q4.1.4	0.137	0.556	-0.051	0.296	0.116
Government funding for public universities plays a positive role in the socioeconomic transformation agenda of the country.	Q4.1.5	0.410	0.428	-0.055	0.423	-0.143
There is no adverse effect on transformation when a funding model includes payment of fees by those students who can afford to do so.	Q4.2.1	0.100	0.056	0.031	0.037	0.774
When self-funded students receive subsidised living allowances, the transformation agenda is achieved.	Q4.2.2	0.240	0.047	0.457	-0.077	0.235
To achieve the transformation agenda, universities are implementing funding mechanisms to assist financially needy self-funded students.	Q4.2.3	0.439	0.035	0.449	0.167	0.296
At South Africa's public universities, historic debt is cancelled (waived) for self-funded students completing their studies within the minimum study period.	Q4.2.4	-0.053	0.138	0.700	-0.100	0.286
High academically performing students are not denied access to university education in South Africa on the basis of their inability to afford fees.	Q4.2.5	0.218	0.088	0.291	0.249	0.476
Corporate and external funders contribute to the transformation agenda by funding postgraduate students from historically disadvantaged backgrounds.	Q4.3.1	0.151	0.020	0.106	0.754	-0.044
Corporate and external funders focus more on merit (academic excellence) than financial need when offering financial support to students.	Q4.3.2	0.017	0.205	-0.026	0.519	0.184
Corporate and external funders provide financial support for the missing middle students.	Q4.3.3	0.047	0.285	0.561	0.362	-0.087
Corporate and external funders target the problem of historic debt for academically deserving needy students.	Q4.3.4	-0.019	0.166	0.625	0.372	-0.166
Corporate and external funders positively contribute to the number of students from poor backgrounds who successfully complete their studies.	Q4.3.5	0.076	-0.028	0.425	0.734	0.161

Allowances paid by NSFAS to students have a positive effect in ensuring students complete their studies in time.	Q4.4.1	0.411	0.268	0.047	0.299	-0.095
NSFAS has funding mechanisms in place to address the problem of historic debt for academically deserving needy students.	Q4.4.2	0.239	0.568	0.326	0.124	-0.162
NSFAS has funding mechanisms in place to address the needs of the missing middle students.	Q4.4.3	0.323	0.510	0.361	0.141	-0.104
NSFAS funding benefits academically achieving students from economically disadvantaged families.	Q4.4.4	0.246	0.362	-0.241	0.605	0.033
NSFAS, in its current form, is appropriate in promoting the government's transformation agenda.	Q4.4.5	0.373	0.609	-0.087	0.135	-0.042
Commercial activities are an essential income source for a university that is committed to the transformation agenda.	Q4.5.1	0.610	0.209	-0.064	0.245	0.195
Public universities in South Africa use funds generated from commercial activities to provide financial assistance to the missing middle students.	Q4.5.2	0.678	0.267	0.127	-0.044	0.082
Public universities use their funds to offer special funding to academically deserving needy students.	Q4.5.3	0.771	0.003	0.229	0.104	0.106
Universities' special funding projects also target the problem of historic debt.	Q4.5.4	0.433	0.090	0.580	-0.109	-0.015
Universities' special funding projects are currently playing a positive role in increasing the number of students from poor backgrounds who successfully complete their studies.	Q4.5.5	0.751	0.146	0.094	0.122	0.052

Extraction Method: Principal Component Analysis, Rotation Method: Varimax with Kaiser Normalization.

Source: Analysis table developed by researcher from SPSS data.