



# Public-Private-Partnership Stakeholders' Alignment in Health System and Universal Health Coverage Attainment Progress in Kilimanjaro Region, Tanzania

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Received: May 29, 2022; Accepted: August 29, 2022; Published: September 9, 2022

**Abstract:** Public-Private-Partnerships (PPPs) have gained prominence in Tanzania and other low-and-middle-income countries (LMICs) since the 1990s. PPPs have emerged as an alternative approach to the provision of public goods including healthcare services to improve the progress toward attaining Universal Health Coverage (UHC). The reviewed body of literature has mostly dwelt on the benefits and challenges of PPPs in health services provision in different contexts from within and outside Tanzania. The contracted PPPs for healthcare providers are expected to align their objectives with those stipulated in the service agreement for better healthcare delivery. Thus, it was important to determine the extent to which PPP stakeholders' alignment with services agreement can be attributed to the progress toward UHC attainment in the Kilimanjaro region. This article (i) examined PPP stakeholders' adherence to key objectives as specified in the service agreement and (ii) determined the relationship between PPP alignment in the health system and progress towards UHC attainment. A case study research design was used involving a sample size of 40 respondents. Multi-stage sampling was employed to obtain the respondents for a structured questionnaire. Descriptive analysis (summated scales expressed in percentages) for objective one was done. Partial least square-structural equation modelling (PLS-SEM) was employed for the second study objective. Results revealed that PPP adherence to key objectives as specified in the service agreement was perceived to be high as per the respondents' rating from Likert items. Results for PLS-SEM indicated,  $R^2 = 0.717$  for UHC implying that 71.7% of the variance in UHC attainment was attributed to PPP stakeholders' alignment with a service agreement in the health system. Factors including quality monitoring and control standards ( $\beta = 0.308$ ,  $p < 0.05$ ) and time span for contract implementation ( $\beta = 0.333$ ,  $p < 0.05$ ), had statistically significant effect on the progress towards UHC attainment. Besides, variables for PPP alignment with service agreement were positively related to the progress towards UHC attainment. Effective PPP alignment to the health system goes hand in hand with PPP partners' adherence to the key objectives as specified in the service agreement. It is recommended that the LGAs and the Ministry of health should promote formal PPP collaborations through service agreements.

**Keywords:** Public-private partnership, stakeholders' alignment, universal health coverage, service agreement.

## 1. Background Information

The need to attain universal health coverage (UHC) has been prioritised as a key goal in many countries' health systems (Abihiro and De Allegri, 2015; Ifeagwu *et al.*, 2021; WHO, 2020; Yi, 2017). The growing emphasis on UHC provides the potential to make healthcare services available, affordable, and accessible to the population. However, the progress toward UHC attainment involves a sustained allocation of resources, especially in the low-and-middle-income countries (LMIC) where resources are more constrained (Eregata *et al.*, 2019). Specification of duties regarding the realisation of UHC should enhance a comprehensive package of healthcare services that the state can provide to all its people (Fullman and Lozano, 2018).

Thus, UHC is both an international and national level policy concern that needs collaborative efforts from different stakeholders in the health system to assess and make a follow-up on its improvement over time. Governments in the low-and-middle-income countries (LMICs) have the role to enhance the provision of public goods such as health services to the population under health systems that promote equitable health services delivery to the population. However, non-governmental health providers have been prominent in providing healthcare services in most of the LMICs (Wadge *et al.*, 2017). Attainment of Universal Health Coverage (UHC) needs deliberate efforts by governments to engage the private (for-profit and not-for-profit) healthcare



providers and other stakeholders in the health system for health services delivery.

Government-private collaboration involves aligning the objectives of the government and private partners toward achieving a common goal. In this context, the common goal is the provision of healthcare services to the population. PPP alignment implies a condition of collaboration between the government and private (in this case, private-not-for-profit) health services providers bound by a shared interest, which is health services provision. The PPP alignment in the health system depends on the level of trust and meaningful relationship that involves fairness in risk sharing between the contracting partners for enhanced equitable health services delivery (Schwarz *et al.*, 2020). The prevailing government's interest in PPPs is mainly social welfare maximization from health services provision. Governments seek to provide healthcare services at the lowest cost possible and benefit the end users, that is, patients. Moreover, the government's interest to engage in PPPs could be driven by the desire to fulfil its policy, political and budget goals (Hovy, 2015). In the case of Tanzania, PPPs implementation for service delivery has been accompanied by the establishment of different policies, guidelines and/or regulations since the 1990s. These include, among others, the PPP act of 1991, the PPP policy of 2009, and the PPP regulation of 2011. Other guiding enactments include the Tanzania Public-Private Investment Act of 1997, the Public Procurement Act of 2012, the PPP (Amendment) Act of 2014, and the PPP (Amendment) Act of 2018 (Nuhu *et al.*, 2020).

These legal and institutional frameworks exist to guide and strengthen, among others, PPPs in the health system for health services provision. Policy/policies, rules and regulations guide specific forms of PPP to be established and implemented as they also influence power relations for determining decision-making by the parties (Mahoney and Thelen, 2010; Nuhu *et al.*, 2020). The presence of institutional frameworks (policies, rules, and regulations in the health sector) enhances the effective operation of PPPs in the provision of healthcare services (Al-Hanawi *et al.*, 2020). Allocation of private property rights, issues of responsibilities and information sharing, fairness in competition, risk allocation/sharing, and mutual trust are guided under the prevailing institutional frameworks (Hellowell, 2019). The need to safeguard operational institutional arrangements for healthcare service provision is aimed at executing policy plans to strengthen the quality of healthcare services delivery and health services quality as well as intensify equitable and universal access to health services (Anyachie *et al.*, 2014; Hellowell, 2019).

Considering the benefits accrued from PPPs in the health sector many governments, with the emphasis of the United Nations, have opted for PPPs. Some of the benefits include, among others, reduction of inequities in health services provision and access, supplementing of government's fiscal budgets, and risk sharing among public and private in healthcare infrastructure investment (Al-Hanawi *et al.*, 2020). Others are enhancing efficient service provision through collaboration, application of expertise and technological innovations from the private providers and aligning objectives of the private stakeholders in realising the broader goal of healthcare services delivery (Al-Hanawi *et al.*, 2020; Kimario *et al.*, 2020; Roehrich *et al.*, 2014). In

Tanzania, PPPs in healthcare have enhanced more household members' to access healthcare services near their residences because more health facilities have been put in place, increased the range of healthcare services delivered, and extension of free services or subsidised medical fees to the elderly (Kimario *et al.*, 2022; Lambrecht, 2017; Mihayo, 2016; Musa, 2016). PPPs have extended and improved health services, especially maternal, newborn and child health, to the rural areas (Tabatabai *et al.*, 2014) where there is more collaboration between the local government and faith-based organisations. However, a review of literature by Swere (2016) in Tanzania found that challenges limiting healthcare services accessibility such as inadequate budget, insufficiency of well-trained health workers, and poor transport and communication networks do exist. As a way forward, Swere (2016) suggested the need for the government to support and collaborate with the private sector in the provision of healthcare services. This can be done through the provision of subsidies and tax exemptions on medical equipment, drugs, and building materials, among others, to enable the engagement of more private providers in the health sector.

PPPs in health services provision are highly needed especially now as both the global health community and individual countries are confronted by increased chronic diseases, population increase and ageing population (Abuzaineh *et al.*, 2018; MoHCDGEC, 2021). This suggests a need for better resource allocation and investment in primary healthcare. Hence, PPP arrangements can address the service gap and leverage primary healthcare for effective health outcomes in terms of preventive, promotive, curative, rehabilitative and palliative health services (Asia\_Care\_Group, 2018; MoHCDGEC, 2021; URT, 2021). A study by Maluka *et al.* (2018) from Tanzania assert that through the PPP service agreement, Maternal Child Health (MCH) services such as antenatal care, delivery and postnatal care services and prevention of mother-to-child transmission of HIV were provided free of charge. Furthermore, most of the health services to the general population were to be subsidized by the government through the contracted health facilities providing the services. However, Maluka *et al.* (2018) identified a challenge in accessing services in the contracted health facilities being high prices on medicine/services despite the government price lists agreed to be adopted by the contracted health facilities. The reviewed body of literature has mostly dwelt on the benefits and challenges of PPP in health services provision in different contexts from within and outside Tanzania. However, this study sought to explore the potential of PPPs in the health sector by looking at the extent PPP stakeholders' alignment with the services agreement in the health system can be attributed to the progress towards attainment of UHC in Kilimanjaro, Tanzania. Thus, the study hypothesised that the variables for PPP alignment with service agreement in the health system have statistically significant relationship with the progress towards UHC attainment.

## 2.0 Theoretical and Conceptual Framework

### 2.1 Theoretical Framework

Stewardship theory (Donaldson and Davis, 1991) guided this study. The theory assumes that the goals/objectives of the principal converge as a result of shared common interests

with the contracted steward (Keay, 2017; Van Slyke, 2007). Stewardship refers to the situation where the steward-principal relationship is built on the willingness of the two to be responsible for achieving a broad common goal (Block, 2013). Stewardship implies the creation of sustainable linkages, reciprocity and participation between partners rather than control-based organisations built on sanctions to enhance performance (Parrado and Reynaers, 2018). This leads to alignment as a product of a reciprocal relationships. In this relationship the stewards behave in a community-centred manner, exerting trust towards their organisations and their shareholders (Chrisman, 2019; Davis *et al.*, 2007; Van Slyke, 2007). In this context, stewardship implies setting rules that guide the way health system goals ought to be achieved.

The stewardship theory works appropriately in the health sector (specifically, with not-for-profit organizations) because it is capable of stimulating both the social and economic dimensions of the public (Bakalikwira *et al.*, 2017). Moreover, the prime motivation of healthcare providers is to serve the community through healthcare service delivery. Stewardship theory counts considerably on the principal's and steward's initial placement of trust. Trust refers to the "willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party" (Mayer *et al.*, 1995, p. 712). Trust involves the ability of the trustees (the PPP health providers) to be willing to take risk of aligning their objectives with those of the trustor (the local government authorities). Thus, stewards greatly value cooperation "over a defection and other expressions of self-serving behaviour" (Van Slyke, 2007, p. 165) despite their goals not aligned with the principals.

Relevance of the stewardship theory can well be noted in situations where the stewards (PPP health providers) behave towards achieving the principal's (government) goals. The stewards exist to serve the collective needs (healthcare services to all in need) of the clients/community which is the key interest of the principal as the core provider of healthcare services to the community. The theory focuses mainly on goal alignment between contracting partners. Thus, the theory guided this study based on the indicators such as shared goals and trust (involving a range of services agreed upon), responsibility and autonomy, and risk sharing/allocation. Others are quality monitoring and control standards (which may decide on incentives, sanctions, and reputation status), terms of payment and costs, and time for contract implementation (Boon, 2018; Van Slyke, 2007). Through responsibility and autonomy promotion, for example, the danger of opportunistic behaviour and reliance on legal contracts to enforce behaviour can be minimized. Moreover, a strengthened principal-steward relationship has the potential to minimize the problems of information asymmetry, moral hazard and asset specificity. Upholding the steward's reputation can incentivize the stewards to behave more appropriately towards goal alignment.

## 2.2 Conceptual Framework

From Figure 1, the independent variables under the PPP stakeholders' alignment in the health system emanated from

the service level agreement. These were the key attributes for aligning the PPP partners to the main goal of health services provided to the healthcare seekers. The PPP stakeholders in this study involved the LGAs and the contracted Faith-Based health facilities in the study area. Stewardship theory provides linkage between the LGAs as the principal and the contracted healthcare providers as the stewards. The alignment between these two stakeholders in the health system is guided by the service level agreement towards enhancing health services accessibility, affordability and health services delivery quality. Thus, the dependent variable is the perceived progress towards UHC attainment in the study area. The study was based on the assumption that PPP stakeholders' alignment with a service agreement in the health system will lead to progress toward UHC attainment.

### Independent Variables

### Dependent Variable

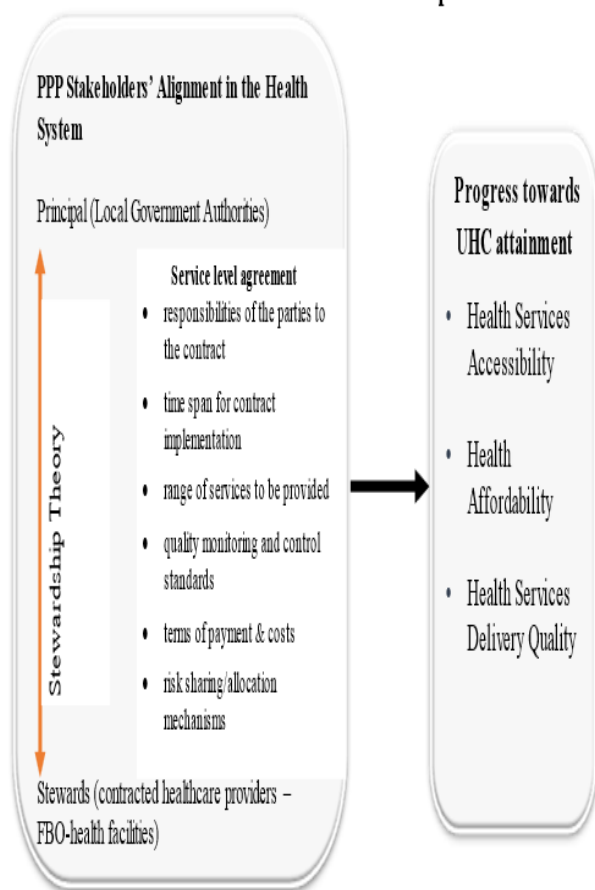


Figure 1: Conceptual Framework

## 3.0 METHODOLOGY

### 3.1 Study Area Selection

The study was carried out in four selected Districts/Councils in Kilimanjaro Region, namely, Rombo District Council (RDC), Moshi District Council (MDC), Hai District Council (HDC) and Moshi Municipal Council (MMC). Kilimanjaro Region was purposefully selected for the study based on its highest score in the health system strength in Tanzania with a z score of 3.8 (Kumalija *et al.*, 2015). This was measured in



terms of healthcare infrastructure availability, health services utilization, health workers' availability and their quality. Considering this aspect, it was important to undertake the research in this area given that it also had health facilities under PPP operations which has potentially been attributed to the attainment of UHC. It was important to know the linkages between PPP stakeholders' alignment in the health system and the progress towards attaining UHC in the region given that PPPs have been operational since the 1990s. The four councils were also selected through purposive sampling, considering those with Council Designated or Voluntary Agency Hospitals operating under PPP service agreements with the LGAs. Thus, MMC, then RDC, MDC, and HDC were selected for the research.

### 3.2 Research Design

The study employed a case study design where four district councils and 10 FBO-based health facilities from the selected districts were involved. A body of quantitative data about two or more variables were collected to determine patterns of association.

### 3.3 Population, sample size and sampling

#### 3.3.1 Population

The population involved in this research were members of the council health management teams (CHMTs) and the Regional Health Management Team (RHMT) in the Kilimanjaro region who are normally the key actors in the PPP monitoring and evaluation by the local government authorities. It also involved the management of the PPP-selected health facilities in the study area.

#### 3.3.2 Sample size and sampling procedure

A total of 40 respondents were involved in this study. A three-level multi-stage sampling was used to obtain the study respondents. The first stage involved the purposive selection of the Kilimanjaro region, three district councils and one municipal council based on the health system strength for the Region and the presence of PPP health facilities with active service level agreement. The second stage involved a purposive selection of the health facilities with active PPP service agreement contracts where ten health facilities (eight hospitals at the district level and two health centres) were selected. The third stage involved the purposive selection of one contact person from each of the selected PPP health facilities management. Moreover, six respondents were randomly selected from the core members of each of the four Council's CHMTs and six from the RHMT. The C/RHMTs are made of core and co-opted members (MoHSW, 2014). However, the core members, whose number is eight (MoHSW, 2014), are the overall overseers of all health-related activities at the district/regional level. Thus, it was necessary to select the core members as the most suitable respondents for the questionnaire. Other respondents were the contact persons for the selected PPP health facilities where the health facility medical in charge or the health facility secretary was selected. The sample size was considered to be enough for the study given that the partial least square-structural equation modelling (PLS-SEM) was applied in data analysis (Hair *et al.*, 2018). Moreover, the study aimed at exploring possible relations among the variables than the magnitude of those relations (Goodhue *et al.*, 2012).

### 3.4 Data Collection

Data collection was done through a questionnaire-based survey. A structured questionnaire was administered to the members of the council health management teams and the regional health management team. The same questionnaire was administered to contact persons from the management of the selected PPP health facilities. The questionnaire was administered to collect information on PPP alignment in the health system based on the PPP service agreement (for the independent variables). Moreover, the questionnaire was also used to gather information for assessing the perceived health services delivery quality, affordability, and accessibility (for the dependent variable).

### 3.5 Measurement of Variables

The dependent variable for this study was UHC with three constructs which are health services accessibility (ACC), affordability (AFF) and health services delivery quality (QTY). The three constructs had 5, 4, and 9 statements (items) respectively. The statements were adapted from different literature (Das *et al.*, 2018; Hanefeld *et al.*, 2017; Otieno *et al.*, 2020; Penchansky and Thomas, 1981; WHO, 2016). The items for the constructs were measured on a five-point Likert scale, where respondents had to choose from strongly disagree (1 point), ... to ... strongly agree (5 points). The independent variables were six constructs (each with four items) extracted from the service agreement for providing health services between the government and private providers (MoHCDGEC, 2017). The independent variables were responsibilities for the PPP partners (RES), range of services agreed (RNG), quality monitoring and control standards (QUA), time for contract implementation (TIM), terms of payments and costs (PAY), and risk allocation/sharing (RIS). Each of these constructs had four items explaining the construct. The items were also measured on a five-point Likert scale, with the respondents choosing from strongly disagree (1 point), ... to ... strongly agree (5 points). The constructs and their respective items for the independent and dependent variables were used as inputs for the Partial Least Square-Structural Equation Model (PLS-SEM).

### 3.6 Data Analysis

For the first objective of examining the perceived level of PPP stakeholders' adherence to the key objectives as specified in the service agreement, a descriptive analysis based on the respondents' rating of the Likert scale items was done. The descriptive statistics were derived from the summated scores from a five-point Likert scale with responses from very low (1 point) ... to ... very high (5 points). The summated points were converted into percentages and those depicting very low and low were merged into low while those depicting high and very high were merged into high. The scores for the moderate outcome remained unchanged.

The second objective determined the extent to which PPP alignment with the service agreement in the health system can be attributed to UHC in the study area. The PLS-SEM using SMART-PLS 3.3.6 software was used for analysis. SEM was chosen because it simultaneously tests many regression models in a single analysis and has become a popular technique among social science researchers (Hair Jr *et al.*, 2017). PLS-SEM is versatile enough to examine

complex relationships and can handle a variety of data sources as it also combines factor analysis with linear regression (Hair Jr *et al.*, 2017; Rigdon, 2014). It also solves the issue of measurement inaccuracy, resulting in a solid relationship estimation. By integrating principal components analysis with regression-based path analysis, PLS-SEM path modelling using SMART-PLS is suited for carrying out confirmatory factor analysis, which is more reliable and valid (Afthanorhan, 2013). With PLS-SEM analysis, two stages were involved: (1) measurement model assessment, which covers individual item reliability, internal consistency, and discriminant validity of the measures, and (2) structural model assessment (Chin, 2010) to provide results for the tested hypotheses.

For the measurement model assessment, reliability using Cronbach Alpha was tested before proceeding with further steps. Moreover, factor analysis using Principal Component Analysis (PCA) through a varimax rotation was conducted to reduce redundant items and to increase the reliability of each aspect. The exploratory analysis procedure is a powerful tool that can address a wide range of theoretical questions, hence allowing the multivariate relationship (Hair Jr *et al.*, 2019). Also, at this stage, both the convergent and discriminant validity were assessed. The PLS-SEM was used to test the hypotheses in the model. The postulated hypotheses were: **H<sub>1</sub>**: The variables for PPP alignment with a service agreement in the health system have a statistically significant relationship with health services accessibility. **H<sub>2</sub>**: The variables for PPP alignment with a service agreement in the health system have a statistically significant relationship with health services affordability. **H<sub>3</sub>**: The variables for PPP alignment with a service agreement in the health system have a statistically significant relationship with the quality of health services delivery. **H<sub>4</sub>**: The variables for PPP alignment with a service agreement in the health system have a statistically significant relationship with the progress towards UHC attainment.

### 3.6.1 Collinearity, sample adequacy, reliability and validity test

The variance inflation factor (VIF) was examined to investigate the multicollinearity issue. According to Table 1, all VIFs are less than 10 (Chin, 2010) indicating that the multicollinearity problem did not exist. Cronbach's Alpha is a widely used measure of internal consistency reliability in the social sciences, and reliability is said to be at least 0.7 (Bonett and Wright, 2014; Cronbach, 1951; Diedenhofen and Musch, 2016; Hair *et al.*, 2020). Cronbach's Alpha was used to assess the internal consistency of the aspects, and it was found to be significant with an Alpha of 0.781 (see Table 1). Then, the aspects tested scored reliability above 0.7 which indicates a very strong consistency among aspects (Hair *et al.*, 2020; Sarstedt *et al.*, 2016). The results gave support to use of factor analysis to determine whether some items could be removed and to capture the meaning of the framework accurately. Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was tested to evaluate the appropriateness of the data for factor analysis. Besides, the KMO test results in Table 1 achieved the minimum threshold of 0.5 (Hair Jr *et al.*, 2019; Williams *et al.*, 2010), indicating that the sample was acceptable for factor analysis.

**Table 1: Collinearity, Reliability and Sample adequacy tests**

| Constructs                                            | Cronbach's Alpha | VIF   | Eigenvalue (%) | KMO          |
|-------------------------------------------------------|------------------|-------|----------------|--------------|
| Health services accessibility (ACC)                   | 0.760            | -     | 1.64 (54.6)    | 0.500*<br>** |
| Health services affordability (AFF)                   | 0.728            | -     | 1.82 (60.7)    | 0.593*<br>** |
| Services delivery quality (QTY)                       | 0.768            | -     | 1.42 (77.4)    | 0.574*<br>** |
| Responsibilities of the parties to the contract (RES) | 0.801            | 1.129 | 1.59 (79.9)    | 0.500*<br>** |
| Range of services to be provided (RNG)                | 0.708            | 2.659 | 1.45 (48.2)    | 0.512*       |
| Quality monitoring and control standards (QUA)        | 0.723            | 1.407 | 1.06 (76.6)    | 0.564*<br>** |
| Time span for contract implementation (TIM)           | 0.824            | 1.427 | 1.15 (38.0)    | 0.541*<br>** |
| Terms of payment and costs (PAY)                      | 0.805            | 2.593 | 1.04 (67.5)    | 0.500*<br>*  |
| Risk sharing/allocation mechanisms (RIS)              | 0.914            | 1.391 | 1.53 (51.0)    | 0.604*       |
| <b>Overall</b>                                        | <b>0.781</b>     |       |                |              |

**Key:** VIF – Variance Inflation Factor, KMO – Kaiser-Meyer-Olkin

A total of 47 items were extracted by using principal component extraction through a varimax rotation; only 27 items were found to be eligible for further analysis. The eigen value for each aspect was above 1.00. As presented in Table 1, the Accessibility (ACC) aspect gave three items explaining 54.6% of the total variance, the Affordability (AFF) aspect had three items explaining 60.7% of the total variance and Service delivery quality (QTY) had five items explaining 77.4% of the total variance. Responsibilities of the parties to the contract (RES) had two items explaining 79.9% of the total variance, and the Range of services to be provided (RNG) had two items explaining 48.2% of the total variance. Quality monitoring and control standards (QUA) had four items explaining 76.6% of the total variance, and the Time span for contract implementation (TIM) had two items explaining 38% of the total variance. Terms of payments and costs (PAY) aspect had four items explaining 67.5% of the total variance, and the Risk sharing/allocation (RIS) aspect had two items explaining 51% of the total variance.



Validity was tested on different aspects. Convergent and discriminant validity were examined (Table 2) to measure latent variables or constructs, their shared variance and how they differed from others (Henseler *et al.*, 2016). Composite Reliability (CR) was used to overcome some of traditional Cronbach Alpha deficiencies. The CR values in this study ranged from 0.777 to 0.907, which is an acceptable range above 0.70. Another measure was convergent validity to measure the degree to which individual items reflected the construct in comparison with items which were used to measure different aspects. Convergent validity was achieved since the factor loadings were above 0.6 (Afthanorhan, 2013).

**Table 2: Factor loadings, Composite reliability and Average Variance Extracted**

| Constructs                                            | Indicators | Factor Loadings | VIF   | Composite Reliability | AVE   |
|-------------------------------------------------------|------------|-----------------|-------|-----------------------|-------|
| Health services accessibility (ACC)                   | ACC_1      | 0.923           | 2.665 | 0.863                 | 0.683 |
|                                                       | ACC_2      | 0.629           | 1.240 |                       |       |
|                                                       | ACC_3      | 0.895           | 2.422 |                       |       |
| Health services affordability (AFF)                   | AFF_1      | 0.863           | 1.822 | 0.843                 | 0.647 |
|                                                       | AFF_2      | 0.903           | 1.80  |                       |       |
|                                                       | AFF_3      | 0.618           | 1.213 |                       |       |
| Services delivery quality (QTY)                       | QTY_1      | 0.623           | 1.236 | 0.844                 | 0.521 |
|                                                       | QTY_2      | 0.796           | 1.660 |                       |       |
|                                                       | QTY_3      | 0.751           | 1.598 |                       |       |
|                                                       | QTY_4      | 0.715           | 1.479 |                       |       |
|                                                       | QTY_5      | 0.713           | 1.520 |                       |       |
| Responsibilities of the parties to the contract (RES) | RES_1      | 0.879           | 1.807 | 0.907                 | 0.830 |
|                                                       | RES_2      | 0.942           | 1.807 |                       |       |
| Range of services to be provided (RNG)                | RNG_1      | 0.908           | 1.138 | 0.795                 | 0.663 |
|                                                       | RNG_2      | 0.708           | 1.138 |                       |       |
| Quality monitoring and control standards (QUA)        | QUA_1      | 0.661           | 1.251 | 0.828                 | 0.547 |
|                                                       | QUA_2      | 0.766           | 1.843 |                       |       |
|                                                       | QUA_3      | 0.801           | 1.879 |                       |       |
|                                                       | QUA_4      | 0.724           | 1.294 |                       |       |
| Time span for contract implementation (TIM)           | TIM_1      | 0.843           | 1.186 | 0.822                 | 0.698 |
|                                                       | TIM_2      | 0.828           | 1.186 |                       |       |
| Terms of payment and costs (PAY)                      | PAY_1      | 0.816           | 1.606 | 0.872                 | 0.630 |
|                                                       | PAY_2      | 0.722           | 1.429 |                       |       |
|                                                       | PAY_3      | 0.808           | 2.006 |                       |       |
|                                                       | PAY_4      | 0.824           | 2.130 |                       |       |
| Risk sharing/allocation mechanisms (RIS)              | RIS_1      | 0.876           | 1.089 | 0.777                 | 0.637 |
|                                                       | RIS_2      | 0.712           | 1.089 |                       |       |

**Key:** VIF – Variance Inflation Factor; AVE - Average Variance Extracted

The values of Average Variance Extracted (AVE) for this study as recommended by Fornell and Larcker (1981), were above the threshold of 0.5. This implies that there were no issues of convergent validity in this study. Fornell and Larcker's (1981) criteria were used to test whether a discriminant validity of the constructs in the model was observed or not, as it suggests that all correlations among the constructs should be less than the square root of AVE (Chin, 2010). Table 3 shows that all inter-constructs correlations were less than their respective square root of AVE, therefore, there is no problem with discriminant validity.

**Table 3: Discriminant validity test**

| Construct | ACC   | AFF    | QTY    | RES    | RNG   | QUA    | TIM    | PAY   | RIS   |
|-----------|-------|--------|--------|--------|-------|--------|--------|-------|-------|
| ACC       | 0.827 |        |        |        |       |        |        |       |       |
| AFF       | 0.004 | 0.805  |        |        |       |        |        |       |       |
| QTY       | 0.128 | 0.627  | 0.722  |        |       |        |        |       |       |
| RES       | 0.570 | -0.086 | -0.011 | 0.911  |       |        |        |       |       |
| RNG       | 0.748 | 0.085  | 0.128  | 0.299  | 0.814 |        |        |       |       |
| QUA       | 0.029 | 0.455  | 0.592  | 0.003  | 0.062 | 0.74   |        |       |       |
| TIM       | 0.711 | 0.000  | 0.072  | 0.192  | 0.516 | -0.094 | 0.836  |       |       |
| PAY       | 0.785 | 0.049  | 0.139  | 0.326  | 0.769 | 0.082  | 0.475  | 0.794 |       |
| RIS       | 0.078 | 0.355  | 0.555  | -0.003 | 0.066 | 0.522  | -0.005 | 0.117 | 0.798 |

**Key:** Main diagonal is the square root of the average variance extracted

**RES** = responsibilities of the parties to the contract;

**RNG** = range of services to be provided

**QUA** = quality monitoring and control standards;

**TIM** = time span for contract implementation

**PAY** = terms of payment and costs;

**RIS** = risk sharing/allocation mechanisms

## 4.0 RESULTS AND DISCUSSION

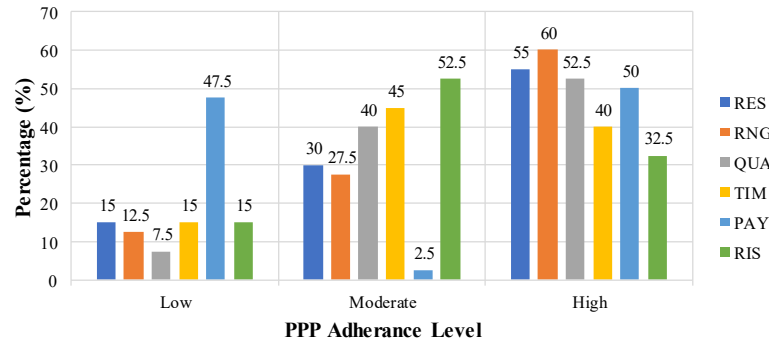
### 4.1 Level of PPP Stakeholders' Adherence to Key Objectives

The perceived level of PPP adherence to the key objectives as specified in the services agreement (Figure 2) was generally found to be high. Results indicate that 55% of the respondents perceived the level of clarity of the responsibilities for the PPP partners (RES) to be high. This indicates that the majority of the respondents agreed that responsibilities for both PPP partners were well stipulated in the contract, workable, well informed about them and, they



were comfortable in executing them. However, 15% of the respondents perceived that there was no clarity of responsibilities for the contracting partners based on the service agreement. Previous related studies in Tanzania reported that there were weak institutional arrangements and the tendency of partners to operate informally despite the presence of signed service contracts (Kamugumya and Olivier, 2016; Nuhu *et al.*, 2020).

Half of the respondents perceived that the terms of payment and costs (PAY), as stated in the service contracts, were highly observed. However, 48% of the respondents perceived that the terms of payment and costs were not well observed. These findings imply that there were divided perceptions on adherence to the terms of payment and costs by the PPP partners. This was mainly because of delayed



**Figure 2: PPP adherence to key objectives as specified in the service agreement**

For the case of the range of services agreed (RNG) to be provided as per the service agreement, 60% of the respondents perceived that the objective was highly adhered to. This means that a needs assessment was done to identify the needed services. Services to be provided by the PPP health facilities are well stipulated in the service agreement; health services prioritised are in line with the essential healthcare services needed, and the services listed in the service agreement are constantly being provided to the clients. However, 13% of the respondents felt that the agreed range of health services was not provided as per the service agreement. This could be explained by the fact that, partly, service contract implementation depended on the donor's financial support (Maluka *et al.*, 2018). Thus, at some point, the needed health services could not be delivered as expected.

Figure 2 indicates that 40% and about 53% of the respondents perceived services quality monitoring and control standards (QUA), as stated in the service agreement, to be moderate and high, respectively. This implies that the required health services were, to a greater extent, provided as per the quality standards highlighted in the service agreement. Moreover, the scores imply that there were either, minimum or no complaints from clients on the quality of services provided. The absence of complaints was because, the health management teams at the local government, oversaw the quality of health services provided by the contracted health facilities.

Time for contract implementation (TIM) as well as the performance standards set in the service agreement was perceived to be moderately adhered to by 45% and highly adhered to by 40%. This shows that the time span for service agreement implementation was well stipulated in the contract and was favourable to the contracting partners. In addition, the performance standard to be achieved in the specified time span of the contract was stipulated in the service agreement. Moreover, the service contracts were open for renewal once the prevailing term has elapsed.

reimbursement of the costs incurred by the PPP health facilities from the government. Despite the delayed reimbursement, some of the costs incurred were not compensated even during the life span of the contract (Maluka *et al.*, 2018). This in turn diminishes the level of trust the contracted PPP partner, as a steward, has bestowed on the government (the principal).

More than half of the respondents (52.5%) perceived that risk allocation/sharing (RIS) among PPP partners was moderate while 32.5% of the respondents perceived that it was high. These findings imply that most of the respondents were, to a certain extent, satisfied with the risk allocation/sharing mechanisms in place, the nature and type of risks shared, and comfortability with the level of risk shared among partners. Risk sharing among partners can be linked to their levels of trust in implementing the service agreement. However, a study by Nuhu *et al.* (2020) in Dar es Salaam indicated that trust among PPP partners in health service provision is one of the challenges associated with risk allocation/sharing issues.

#### 4.2 Relationship between PPP Alignment with Service Agreement and UHC Attributes

As explained in Section 3.6, PLS-SEM techniques were employed to test the first three hypotheses from the structured model. Path analysis was done followed by bootstrapping technique for testing the significance of the estimated parameters, path coefficients, coefficient of determination, and t statistics in the structured model. Figure 3 presents the PLS-SEM path diagram results indicating the relationships between the variables for PPP alignment in the health system and each of the UHC attributes (health services accessibility, affordability and health services delivery quality).

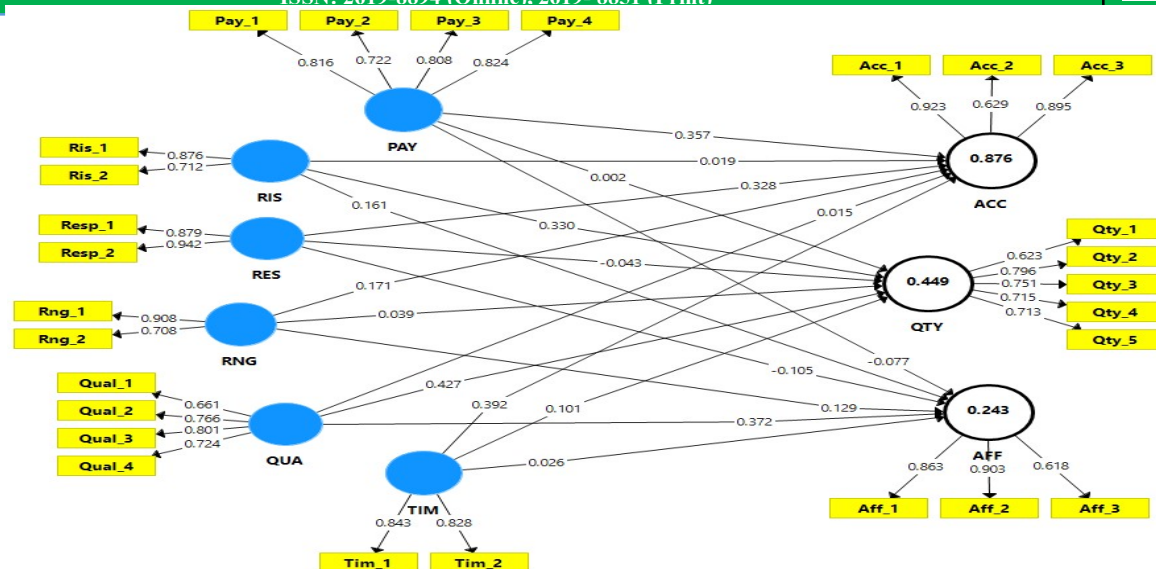


Figure 3: PLS-SEM path diagram results for the relationship between PPP alignment with service agreement and UHC attributes

From Figure 3, 44.9%, 24.3%, and 87.60% changes in health services delivery quality, affordability, and accessibility, respectively, were attributed to the variables for PPP alignment with a service agreement in the health system toward UHC attainment in the study area. The numbers in the plain ellipses in Figure 2 are values of  $R^2$  representing the amount of variance explained by the explanatory variables on the outcome variable. Values approximately to 0.190 are weak; values above 0.190 to 0.333 are moderate; and those above 0.333 are substantial (Chin, 2010). Based on the results from the structural model in Figure 2, health services accessibility ( $R^2 = 0.876$ ) and health services delivery quality ( $R^2 = 0.449$ ) were substantial and health services affordability ( $R^2 = 0.248$ ) was moderate. Thus, 87.6% of the variance in the accessibility of health services, 44.9% of the variance in health services delivery quality and 24.3% of the variance in the health services affordability were explained by interventions on PPP alignment with a service agreement in the health system. Table 4 gives a further illustration of the results based on the structural model.

Table 4: PLS-SEM results from the estimated model for UHC attributes

| Constructs | Accessibility<br>$R^2 = 0.876$ |       |         | Affordability<br>$R^2 = 0.243$ |       |         | Services Delivery Quality<br>$R^2 = 0.449$ |       |         |
|------------|--------------------------------|-------|---------|--------------------------------|-------|---------|--------------------------------------------|-------|---------|
|            | Path coef.                     | t     | p-value | Path coef.                     | t     | p-value | Path coef.                                 | t     | p-value |
| RES        | 0.328                          | 2.802 | 0.005   | -0.105                         | 1.420 | 0.156   | -0.043                                     | 0.568 | 0.570   |
| RNG        | 0.171                          | 1.452 | 0.147   | 0.129                          | 1.046 | 0.296   | 0.039                                      | 0.308 | 0.758   |
| QUA        | 0.015                          | 0.409 | 0.683   | 0.372                          | 4.154 | 0.000   | 0.427                                      | 4.100 | 0.000   |
| TIM        | 0.392                          | 3.990 | 0.000   | 0.026                          | 0.338 | 0.735   | 0.101                                      | 1.092 | 0.275   |
| PAY        | 0.357                          | 3.490 | 0.001   | -0.077                         | 0.532 | 0.595   | 0.002                                      | 0.017 | 0.987   |
| RIS        | 0.019                          | 0.586 | 0.558   | 0.161                          | 1.513 | 0.131   | 0.330                                      | 3.046 | 0.002   |

**Key:** RES = responsibilities of the parties to the contract;  
RNG = range of services to be provided  
QUA = quality monitoring and control standards;  
TIM = time span for contract implementation  
PAY = terms of payment and costs;  
RIS = risk sharing/allocation mechanisms

It can be noted from Table 4 that variables such as responsibilities of the parties to the contract, time span for contract implementation, and terms of payment and costs ( $\beta = 0.328$ ,  $p < 0.01$ ), ( $\beta = 0.392$ ,  $p < 0.01$ ), and ( $\beta = 0.357$ ,  $p < 0.01$ ), respectively, had positive significant relationship with health services accessibility. A unit increase in the responsibilities of the parties to the contract, a unit increase in the time span for contract implementation, and a unit increase in the terms of payment and costs would improve health services accessibility by 32.8%, 39.2%, and 35.7%, respectively. The hypothesis,  $H_1$ : the variables for PPP alignment with a service agreement in the health system have a statistically significant relationship with health services accessibility is partially supported. This is because half of the variables indicated a significant relationships while the other half were insignificant. Besides, all the variables for PPP alignment with a service agreement in the health system had a positive relationship with health services accessibility. The findings on the importance of having clear responsibilities for the parties to the contract and the terms of payment in the service contract are important for PPP alignment with the contract for services provision (Hellowell, 2019). Moreover, Maluka *et al.* (2018) mention some challenges to accessing health services to PPP contracted health facilities in Tanzania due to contracted health providers not aligning themselves with the services contract in terms of costs and payments of services provided.

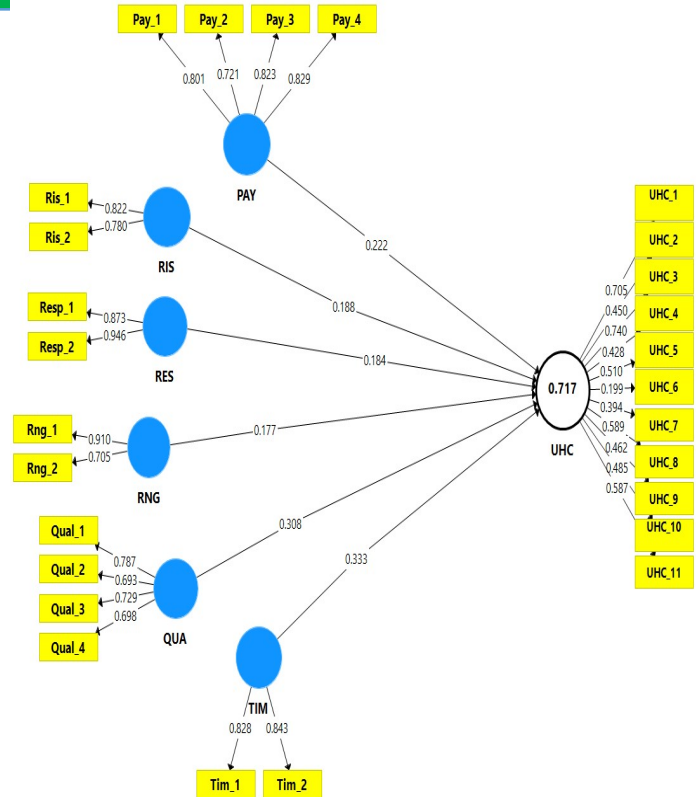
For the health services affordability component (Table 4), only quality monitoring and control standards ( $\beta = 0.379$ ,  $p < 0.01$ ) had a statistically significant relationship with health services affordability. A unit increase in quality monitoring and control standards would improve health services affordability by 37.9%. The hypothesis,  $H_2$ : the variables for PPP alignment with a service agreement in the health system

have a statistically significant relationship with health services affordability is not supported. This is because, five out of six variables were statistically insignificant. However, the responsibilities of the parties to the contract (RES) and terms of payment and costs (PAY) depicted a negative relationship with health services affordability. This implies that a unit increase in either RES or PAY may deter health services affordability by 10.5% or 7%. This may happen when responsibilities to the services contract are less practical and terms of payment and costs are less friendly, thus failure of the PPP health providers to deliver health services at affordable cost.

As indicated in Table 4, quality monitoring and control standards ( $\beta = 0.433$ ,  $p < 0.01$ ) and risk sharing/allocation mechanisms ( $\beta = 0.326$ ,  $p < 0.01$ ) had positive significant effect on health services delivery quality. A unit increase in quality monitoring and control standards would improve health services delivery quality by 43.3% and a unit increase in risk sharing/allocation mechanisms among PPP parties would improve health services delivery quality by 32.6%. The hypothesis, **H<sub>3</sub>**: the variables for PPP alignment with a service agreement in the health system have a statistically significant relationship with the quality of health services delivery is partially supported. It is partially supported because at least two variables out of six for PPP alignment had a statistically significant relationship with health services delivery quality. Besides, with exception of responsibilities of the parties to the contract, the other variables had a positive relationship with the quality of health services delivery. A study by Schwarz *et al.* (2020) emphasises on the strategic and meaningful alignment of private health providers into the government's objective of health services provision in a much-formalised manner. The strategic and meaningful alignment should involve upholding quality standards and equitable service delivery. The findings also corroborate with those of Jomo *et al.* (2016) who suggested that PPP services agreements should be accompanied by clear mechanisms for risk sharing among PPP partners.

#### 4.2.1 Relationship between PPP alignment with service agreement and UHC attainment

The individual items for each UHC component were combined to assess the overall relationship between the variables for PPP alignment with a service agreement in the health system and the progress towards attaining UHC in the study area. To test the overall hypothesis, from the structured model, PLS-SEM techniques were employed for assessing the relationships. Path analysis was done followed by bootstrapping technique for testing the significance of the estimated parameters, path coefficients, coefficient of determination, and t statistics in the structured model. Figure 4 presents the PLS-SEM path diagram results indicating the relationships between the variables for PPP alignment in the health system and UHC attainment.



**Figure 4: PLS-SEM path diagram results for Relationship between PPP alignment with service agreement and UHC attainment**

Based on the results from the structural model in Figure 4, the progress toward attaining universal health coverage was substantial with  $R^2 = 0.717$ . Thus, 71.7% of the variance in the progress towards UHC attainment was explained by interventions on PPP alignment in the health system through service agreements. Table 5 gives a further illustration of the results based on the structural model.

**Table 5: PLS-SEM results from the estimated model for UHC attainment**

| Constructs                                            | Universal Health Coverage (UHC) |       |              |
|-------------------------------------------------------|---------------------------------|-------|--------------|
|                                                       | $R^2 = 0.717$                   |       |              |
|                                                       | Path coef.                      | t     | p- value     |
| Responsibilities of the parties to the contract (RES) | 0.184                           | 1.285 | 0.200        |
| Range of services to be provided (RNG)                | 0.177                           | 1.496 | 0.135        |
| Quality monitoring and control standards (QUA)        | 0.308                           | 2.051 | <b>0.041</b> |
| Time span for contract implementation (TIM)           | 0.333                           | 2.381 | <b>0.018</b> |
| Terms of payment and costs (PAY)                      | 0.222                           | 1.850 | <b>0.065</b> |
| Risk sharing/allocation mechanisms (RIS)              | 0.188                           | 1.608 | 0.109        |

From Table 5, variables such as quality monitoring and control standards ( $\beta = 0.308$ ,  $p < 0.05$ ) and time span for contract implementation ( $\beta = 0.333$ ,  $p < 0.05$ ), had a statistically significant relationship with the progress towards UHC attainment. The hypothesis, **H<sub>4</sub>**: the variables for PPP



alignment with a service agreement in the health system have a statistically significant relationship with the progress towards UHC attainment was partially supported. It was partially supported because all variables for PPP alignment with services agreement in the health system had a positive relationship with the progress towards UHC attainment in the study area. It implies that a unit increase in any of the variables for PPP alignment with a service agreement in the health system would improve the progress towards UHC attainment in the study area by a certain percentage. The variables that depicted a stronger positive effect were TIM (33.3%), QUA (30.8%), and PAY (22.2%).

It was noted from the literature that smooth health services quality monitoring by the health management teams in collaboration with the PPP service providers is likely to reduce the problem of incomplete contracts and information asymmetry (Brinkerhoff *et al.*, 2019; Cockburn *et al.*, 2019). This will increase the level of private partners' alignment in the health system toward attaining UHC. This study was built on the assumption that the objectives of the private partners (the stewards) are well aligned with those of the public partner (the principal) through a service agreements. However, it was noted from the results that not all attributes for PPP alignment with the service agreement had a significant relationship with the progress towards UHC attainment. Despite most of them not being statistically significant, they were positively related to the progress towards attaining UHC in the study area.

## 5.0 CONCLUSIONS & RECOMMENDATIONS

### 5.1 Conclusions

Based on the objective that examined PPP partners' adherence to the PPP key objectives as specified in the service agreement, the perceived level of PPP adherence to the key objectives as specified in the services agreement was generally found to be high for health services provision. From this finding, it can be concluded that adherence to services agreement improves the principal-steward relationship, thus more likelihood of collaboration between the private and the government in the health sector. Given that the level of adherence was generally perceived to be high, shortcomings in the course of executing the service contracts are inevitable.

Another objective determined the relationship between the variables for PPP alignment with a service agreement in the health system and progress towards UHC attainment. It was found that all the variables for PPP alignment with service agreement had a positive relationship with the progress towards UHC attainment in the study area. From this finding, it is concluded that health services agreement is very important in aligning the PPP partners (private-not-for-profit and other private health services providers) to the health system for improving the progress toward UHC attainment. Effective PPP alignment to the health system goes hand in hand with PPP partner's adherence to the key objectives as specified in the service agreement. Issues of clarity of responsibilities, terms of payment/reimbursement, services quality monitoring and standards and risk sharing among contracting parties are pertinent to health services delivery quality, accessibility and affordability. The improvement of these three UHC attributes would eventually improve the progress towards attaining UHC in the study area.

### 5.2 Recommendations

In relation to the stewardship theory, as the private party tries to become a good steward of the service contract, the government, through the Local Government Authorities (LGAs) should not act only as a controller but act as an ally to the service contract. Transparency in responsibilities and use of resources should be upheld by the PPP contracting parties. The government should reimburse the costs incurred by the private provider on time as stipulated in the services agreement given that the private provider has adhered to the requirements agreed upon.

The LGAs should enhance more sensitization to the private healthcare providers, through the Regional/Council Health Management Teams on the need to collaborate with the government through service agreements. Given that the results indicated that more than 70% change in the progress towards attaining UHC in the study area, adherence to service agreements should be emphasised. Moreover, the government should encourage public-private partnerships in health services provision.

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