

STAKEHOLDER MANAGEMENT AND PERFORMANCE OF
NAIROBI WATER AND SEWERAGE COMPANY PROJECTS

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ABSTRACT

Challenges experienced by NWSC in implementation of the Vision 2030 are that the company's stakeholder management is hampered by production capacity challenges versus the demand for water in the city. Currently, of the 3.8 million residents of Nairobi, only 50 per cent have direct access to piped water. The rest obtain water from kiosks, vendors and illegal connections. Operational challenges are common in NWSC as a result of frequent cases of un-informed customer care on rationing program due to interruption of water supply as a result of vandalism of appurtenances. This study sought to assess stakeholder management and performance of Nairobi Water and Sewerage Company projects. Specifically, the study seeks: To assess the influence of stakeholder participation on performance of Nairobi Water and Sewerage Company projects; To establish how stakeholder board size influences performance of Nairobi Water and Sewerage Company projects; To determine the extent to which organization structure influences performance of Nairobi Water and Sewerage Company projects; and To explore the influence of stakeholder resource allocation on performance of Nairobi Water and Sewerage Company projects. The study variables were anchored on the stakeholder theory, agency theory, contingency theory of organization structure and the resource dependency theory. The study adopted a descriptive research design. The target population consisted of 450 staff working at NWSC offices in various locations in the Nairobi County. The study adopted Kothari formulae for determination of sample size and stratified random sampling technique to give a sample size of 62 respondents. Data was collected by use of a semi structured questionnaire which was pilot tested for validity and reliability. Correlation analysis was used to test the direction of relationship between the independent variables and dependent variable. Qualitative data was analyzed using content analysis. Descriptive statistics was analyzed using frequencies and t-tests. Inferential statistical analysis will be done using multiple regressions using SPSS Version 22 software. Analyzed data will be presented in form of tables to facilitate comparison. The collected data was analyzed using descriptive statistics and the findings were presented by tables, figures and graphs. The study found out that the frequency of attendance in meetings by the stakeholders was indicated as hardly and never by most of the respondents. The study concludes that the frequency of attendance in meetings by the stakeholders was very rare. Further the level of project commitment by the stakeholders was highly frequented at 11-20% and 31-40%.The study recommends that stake holder should be involved in decision making since in most cases stakeholders are given voice only if it is obviously in the best interests of the firm to do so, and value is distributed according to negotiations in which each stakeholder must fight for its own interests.

Keywords: *Stakeholder participation, Stakeholder board size, Stakeholder organization structure, Stakeholder resource allocation.*

INTRODUCTION

This study sought to assess stakeholder management and performance of Nairobi Water and Sewerage Company projects. This chapter is an introduction of the study and presents the background of the study which is the state of affairs that has been in the recent past of the phenomenon being studied. The chapter also presents the statement of the problem and the research objectives and questions. The justification, scope and limitations of the study are also sets out in the chapter.

STATEMENT OF THE PROBLEM

At inception, NWSC inherited certain assets and liabilities from CCN which continue to pose challenges in its service provision (John, 2011). Challenges experienced by NWSC in implementation of the Vision 2030 were that the company's stakeholder management is hampered by production capacity challenges versus the demand for water in the city compounded by the age of the treatment plants and inadequate staffing in dams and water treatment plants. This was evidenced by frequent cases of poor water quality particularly at the Kabete treatment plant where brownish water was produced (Tsuma, 2011). Operational challenges are common in NWSC as a result of frequent cases of un-informed customer care on rationing program due to interruption of water supply as a result of vandalism of appurtenances (Akello, 2014). Furthermore, engineering challenges due to lack of loaders for prompt transport of materials to engineering sites and the lengthy procedures in payments for the same were also experienced (Ministry of Planning and National Development Report 2010). The operations of NWSC were also adversely affected by the prolonged drought which caused dams and rivers to dry up in 2006 (Karanja, 2010). A further complication to the efficiency of service delivery by the company has been the scenario where demand has significantly outstripped the supply.

Another challenge is the aging water and sewerage infrastructure which have increased maintenance costs besides breaking down frequently (Ruhiiu, Ogendero, Kamundi, Kaseve, Owuocha & Mbachia, 2012).

All the above challenges are compounded by Kenya being a water scarce country with annual renewable fresh water per capita at 647 cubic meters against the United Nation's recommended minimum of 1,000 cubic meters (RoK, 2012).

Studies that have been done include Adan (2012) study on the influence of stakeholders' role on performance of constituencies' development fund projects a case of Isiolo North Constituency;

RESEARCH OBJECTIVES

- i. To assess the influence of stakeholder participation on performance of Nairobi Water and Sewerage Company projects
- ii. To establish how stakeholder board size influences performance of Nairobi Water and Sewerage Company projects
- iii. To determine the extent to which organization structure influences performance of Nairobi Water and Sewerage Company projects
- iv. To explore the influence of stakeholder resource allocation on performance of Nairobi Water and Sewerage Company projects.

LITERATURE REVIEW

This chapter explores the literature review of the study. Literature review is a continuous process that cuts across all the stages of the research process in a dynamic way. The related literature of the subject under study as presented by various researchers, scholars, analysts and authors is reviewed which helps to clarify, strengthen and direct each stage of the research from formulation of each topic to the mechanism for the dissemination and utilization of the research

findings (Morris, 2003). Specifically, this chapter covers the theoretical and empirical literature on stakeholder management and performance of firms. The conceptual framework, critique of existing literature and the existing research gaps are also presented.

Theoretical Review

This section offers the theoretical foundation of the study with an aim of determining the existing theories that could explain the drivers of stakeholder management and performance of firms. Cooper and Schindler (2011) defines a theory as a set of interrelated concepts, definitions, prepositions that have been put forth to explain or predict a scenario. Bull (2009) notes that a theory is a set of constructs, prepositions and definitions of an organized view of phenomena by pointing the relationships among variables with purpose of explaining the phenomena. The main essence of theory is to provide an explanation to both an observed phenomena and a tentative reality (Kerlinger & Lee, 2000).

Stakeholder Theory

This theory is concerned with how managers and stakeholders actually behave and how they view their actions and roles (Freeman 2004). The instrumental stakeholder theory deals with how managers should act if they want to flourish and work for their own interests.

The purpose of the corporation is not anymore only to make profit for shareholders but also to defend an image and values respecting all stakeholders. There is of course a link between the wealth of Shareholders and the wealth of all Stakeholders because the corporation needs a good reputation to make profits. But it has still not been clearly proven by empirical studies.

Agency Theory

According to Brown Governance Report (BG) the agency theory was formulated in by Adam Smith in the 1700's, categorizing the various groups into Principals (owners) are people with a knack for accumulating capital, while Agents (management) are people with a surplus of ideas to effectively use that capital (BG, 2004).

RESEARCH METHODOLOGY

The study adopted a descriptive research design to assess stakeholder management and performance of Nairobi Water and Sewerage Company projects. Mugenda and Mugenda (2003) observe that a descriptive research design emphasize detailed contextual analysis of events or conditions and their relationships. This research design enabled the study gather detailed reliable and accurate information from key respondents on stakeholder management and performance of Nairobi Water and Sewerage Company projects.

The study relied on both primarily and secondary data acquired using a questionnaire and empirical studies. The respondents comprised of among others: the managing director, director technical services, director financial and administration services, director commercial services, planning monitoring and evaluation manager, informal settlement department manager, engineering manager, operational and maintenance manager and ICT manager.

A multiple regression analysis and correlation coefficient analysis was carried out to assess the determinants of effective consultancy for road construction projects in Kenya.

The regression equation ($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon$):

Where:

Y = Performance of NWSC projects

β_0 = Constant Term

$\beta_1 - \beta_4$ = Beta coefficients (The constant regression coefficient representing the condition of the independent variable to the dependent variable)

X_1 = Stakeholder participation

X_2 = Stakeholder board size

X_3 = Organization structure

X_4 = Stakeholder resource allocation

ε = Error term.

The *t-tests* at 95% confidence level was used to determine the statistical significance of the constant terms β_0 and coefficient terms β_{1-4} . The analysis was done using SPSS. The interaction between independent variable and moderator in the model could decrease or increase the effects on dependent variable. Analyzed data was presented in form of tables to facilitate comparison.

RESPONSE RATE

A total of Sixty two (62) questionnaires were distributed to the top, middle and low level management staff of NWSC .All the dispatched questionnaires were closely monitored and 45 questionnaires were returned giving a 73% response rate. This response rate was good and representative and conforms to Mugenda and Mugenda (1999) stipulation that a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent.

The result was tabulated in table 4.1

Table 4.1 Response rate

Response	Frequency	Percentage
Responded	45	72.58
Not responded	17	27.42
Total	62	100.0

Reliability Results

To measure the reliability of the data collection instruments an internal consistency technique Cronbach's alpha was computed using SPSS. The pilot study involved questionnaires from 8 management staff in NWSC. The data obtained from these respondents was analyzed using SPSS Cronbach's alpha.

Table 4. 2: Reliability

Constructs	Cronbach's Alpha Values	Comments
stakeholder participation	0.983	Accepted
stakeholder board size	0.971	Accepted
organization structure	0.960	Accepted
stakeholder resource	0.956	Accepted

Gender of the Repondents

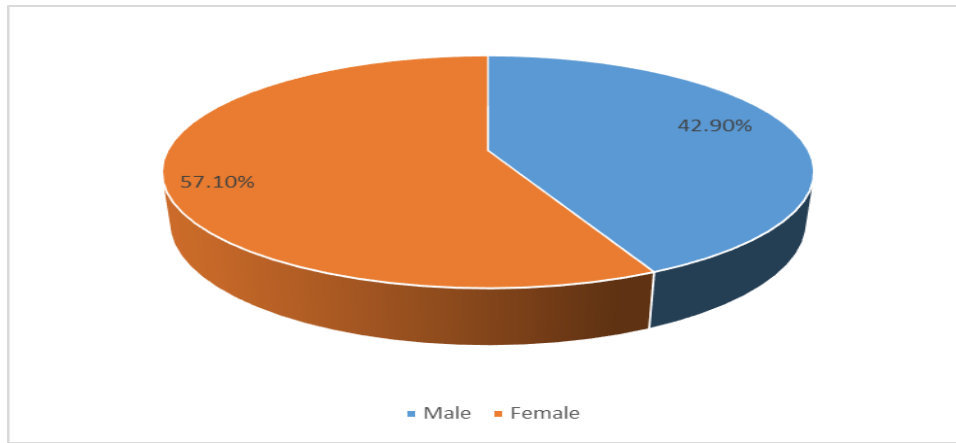


Figure 4. 1: Gender Composition

The study found out that NWSC has 57.10% as women and 42.9% as male employees.

Age of the respondents

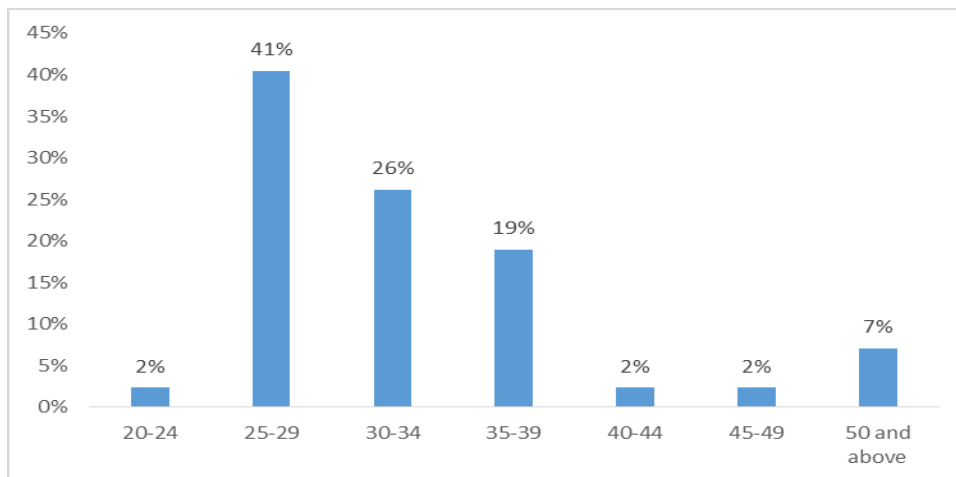


Figure 4. 2: Age Brackets

The study found out that most of the employees are between 25-29 years of age which is the most productive age of an employee.

Number of years worked at NWSC

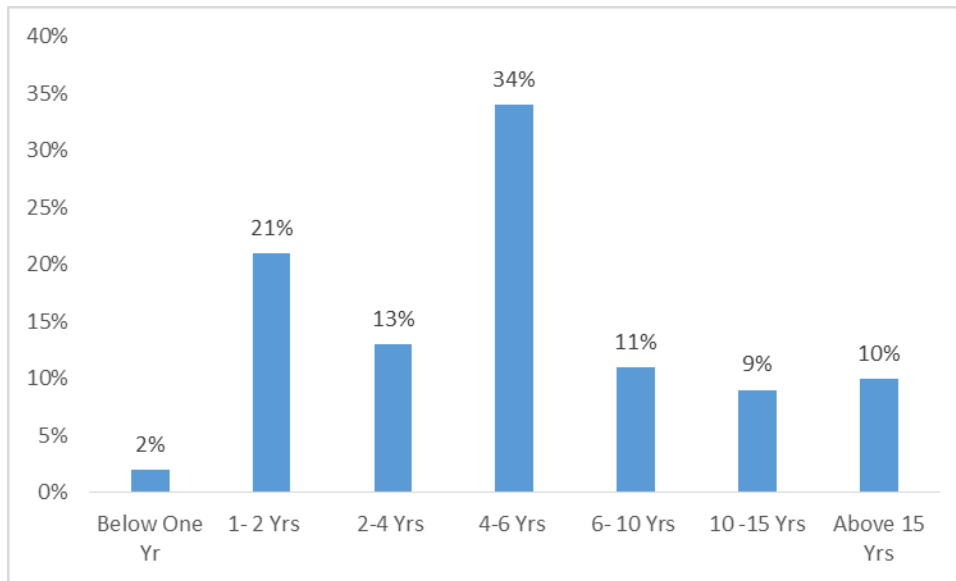


Figure 4. 3: No of years worked at NWSC

The study found out that most employees had been employed by NWSC for more than two years and therefore they had an understanding of how the firm operates.

Table 4. 3: Highest Level of Education

Level of education	Frequency	Percent
KCSE	0	0.00
Diploma	7	16.67
Degree	20	47.62
Masters	12	28.57
PhD	3	7.14
Total	42	100.00

The study sought to investigate the respondents' level of education with an aim of establishing their ability to respond to the questions in this study. According to the findings, majority of the respondents had acquired a university level of education as shown by 47.62% for Degree,

28.57% for Masters and 7.14% for Doctorate, while 16.67% of the respondents were college level Diploma holders. There were no KCSE holders.

Whether stakeholder participation influences the performance of NWSC

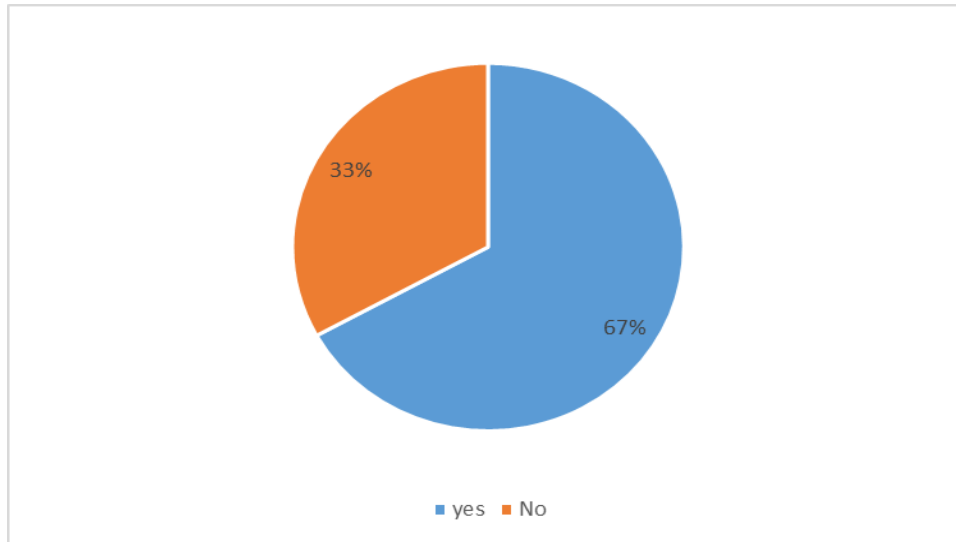


Figure 4. 4: Whether stakeholder participation influences the performance of NWSC

On whether stakeholder participation influences the performance of NWSC 67% indicated that stakeholder participation influences the performance of NWSC while 33% indicated that stakeholder participation do not influence the performance of NWSC.

Whether stakeholder board size influences the performance of NWSC

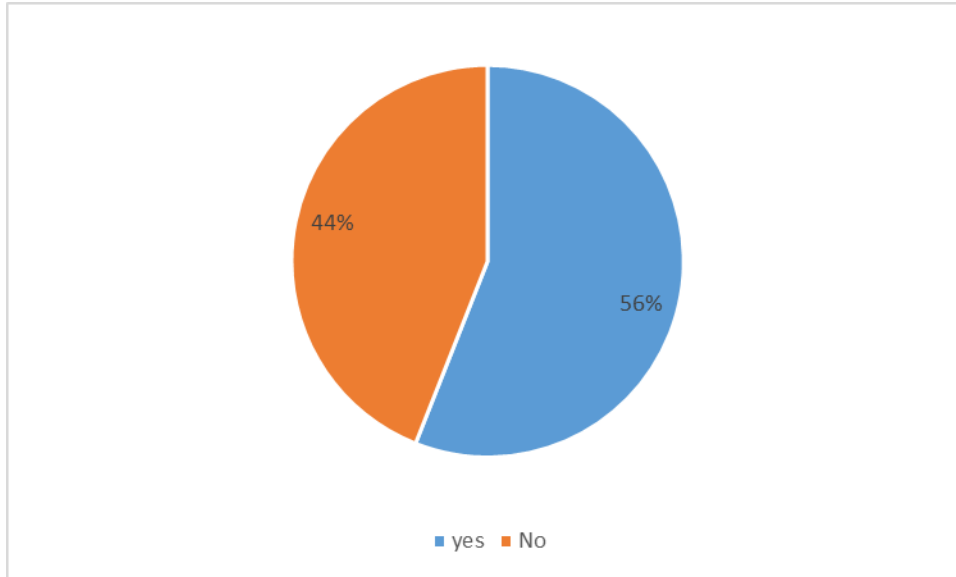


Figure 4. 5: Whether stakeholder board size influences the performance of NWSC

On whether board size influences the performance of NWSC, 56% indicated that board size influences the performance of NWSC while 44% indicated that board size do not influence the performance of NWSC.

that organizations must possess in order to successfully integrate with their customers.

Whether stakeholder Organization structure influences the performance of NWSC

On whether Organization structure influences the performance of NWSC, 78% indicated that Organization structure influences the performance of NWSC while 22% indicated that organization structure didnt influence the performance of NWSC.

Table 4. 4: Stakeholder Resource Allocation

Statement					
How would you rate infrastructure adequacy in your firm?	Very low	Low	None at all	High	Very High
	34%	27%	15%	12%	12%

How would you rate team potency in your firm?	0-10%	10-20%	20-30%	30-40%	Over 40%
	4%	4%	4%	21%	67%
How would you gauge the value addition of your IT resources at NWSC?	0-10%	10-20%	20-30%	30-40%	Over 40%
	2%	11%	4%	23%	60%
How would you gauge the efficiency human resources at NWSC?	Very poor	Poor	Normal	Good	Very good
	13%	12%	40%	25%	10%

According to the findings infrastructure adequacy in the firms was rated as very low, low, none at all, high and very high as shown by percentage frequency of 34%,27%,15% and 12% respectively. Majority of the respondents (67%) rated team potency at over 40% while value addition of IT resources at NWSC rated by 60% at over 40%.The efficiency of human resources at NWSC was rated as Very poor, Poor, Normal, Good, and Very good as shown by 13%,12%,40%, 25% and 10% respectively.

Table 4. 5: Performance

Indicators					
Customer satisfaction	0-10%	10-20%	20-30%	30-40%	Over 40%
	17%	34%	3%	15%	31%
Return on Investment	2010	2011	2012	2013	2014
	1.102	1.103	1.263	1.143	1.161
Cost	2010	2011	2012	2013	2014
	4.6%	3.5%	3.4%	1.9%	2.9%
Quality	0-10%	10-20%	20-30%	30-40%	Over 40%
	15%	36%	5%	13%	31%

The customer satisfaction as a measure of performance was rated at 0-10%, 10-20%, 20-30%, 30-40% and over 40% as shown by percentage frequency of 17%, 34%, 3%, 15% and 31%

respectively. Cost as measure of performance was rated at 4.6%, 3.5%, 3.4%, 1.9% and 2.9% and the years 2010-2014 while quality was rated at 17%, 34%, 3%, 15% and 31% respectively in the years 2010-2014. ROI was rated indicated as 1.102,1.103,1.263,1.143 and 1.161 respectively in the years 2010-2014.

Regression Analysis

The researcher conducted a multiple regression analysis so as to assess stakeholder management and performance of Nairobi Water and Sewerage Company projects. The researcher applied the statistical package for social sciences (SPSS) to code, enter and compute the measurements of the multiple regressions for the study.

Table 4. 6 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.973 ^a	.946	.943	.58162

The four independent variables that were studied, explain only 94.6% of the organization performance as represented by the R². This therefore means that other factors not studied in this research contribute 5.4% of the organization performance. Therefore, further research should be conducted to assess stakeholder management and performance of Nairobi Water and Sewerage Company projects

ANOVA^b

The significance value is .0000 which is less than 0.05 thus the model is statistically significant in stakeholder participation, stakeholder board size, organization structure, stakeholder resource allocation. The F critical at 5% level of significance was 7.9. Since F calculated is greater than the F critical (value = 371.662), this shows that the overall model was significant.

Table 4.7: ANOVA (Analysis of Variance)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	502.902	4	125.725	371.662	.000 ^b
	Residual	28.754	40	.338		
	Total	531.656	44			

Coefficient of determination

The researcher conducted a multiple regression analysis so as to determine the relationship between Y and the four variables. As per the SPSS generated table 4.8, the equation ($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon$) becomes:

$$Y = 2.976 + 0.877X_1 + 0.588X_2 + 0.705X_3 + 0.299X_4 + \epsilon$$

Where Y is the dependent variable (Performance of Nairobi Water and Sewerage Company projects), X₁ is the stakeholder, X₂ is stakeholder board size, X₃ is organization structure and X₄ is stakeholder resource allocation.

Table 4. 8: Coefficient of determination

Model	T	Sig.
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	B		
(Constant)	2.976	2.985	.004
stakeholder participation	0.877	3.286	.001
stakeholder board size	0.588	5.796	.000
organization structure	0.705	2.796	.076
stakeholder resource allocation	0.299	2.985	.004

Conclusion

The study concludes that the frequency of attendance in meetings by the stakeholders was very rare. Further the level of project commitment by the stakeholders was highly frequented at 11-20% and 31-40%.The level of involvement by the stakeholders in information requirements analysis was indicated by majority as 0-10% and 11-20%.Stakeholder participation influences the performance of NWSC.

Recommendations

The study recommends that stake holder should be involved in decision making since in most cases stakeholders are given voice only if it is obviously in the best interests of the firm to do so, and value is distributed according to negotiations in which each stakeholder must fight for its own interests.

The study further recommends that board size should be controlled since it affects the performance of a firm. Large boards are less effective and are easier for a CEO to control. When a board gets too big, it becomes difficult to co-ordinate and process problems. Smaller boards

also reduce the possibility of free riding by individual directors, and increase their decision taking processes.

The study also recommends that the Organization structure should also be stabilized. The optimal organizational structure would be the structure that minimizes both, the sum of the production costs and the agency costs.

Finally the study recommends that Stakeholder and resource allocation should be well balanced since Stakeholder and resource allocation decisions are inseparable.

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