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Mediation models: A focus on the Effect of Customer Satisfaction on the relationship between Ethicaltreatment towards Farmers and Enterprise Performance in Mumias sugar belt, Kenya

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Abstract

In the simplest mediation theory, the investigation of mediation specifies a chain of relations by which an antecedent variable affects a mediating variable, which in turn affects a dependent variable. Mediating variables can be behavioral, biological, psychological, or social constructs that transmit the effect of one variable to another variable. There are two overlapping applications of mediation theory. One major application of mediating variables is after an effect is observed and researchers investigate how this effect occurred. In this framework, a third variable is inserted into the analysis of an X~ *Y* relation to improve the understanding of the relation, that is, to determine whether the relation isdue to a mediator or is spurious. To demonstrate this astudy was conducted in Mumias Sugar Belt among cane haulage SMEs and their customers. The purpose of the study was to establish the mediating effect of consumers satisfaction on the relationship between ethical treatment towards farmers and enterprise performance. The study was guided by the stakeholder theory and a conceptualmodel of the same theory. Correlational survey design was adopted for the study. The study population was made up of 75,000 sugar cane farmers. A sample size of 382 based on 90% response rate was used guided by coefficient of determination formula. Cluster and simple random sampling techniques were used to select farmers with counties being the basis of cluster before applying random techniques. Questionnaires were used to obtain data from farmers. Frequencies were used to show distribution of responses. Correlations were used to assess associations between ethical treatment towards farmers and enterprise performance. Kenny and Barron 4 step mediation models were used to assess the mediating effect of customer satisfaction on the relationship between ethical business practices and enterprise performance. Pearson correlations established that farmers trust in drivers was negatively correlated to enterprise reputation and goodwill to the company. Similarly, Pearson correlations revealed that cane theft in transit had negative correlations with enterprise goodwill and customer loyalty. Logistic Regression indicated that cane theft in transit negatively affected customer loyalty. Pearson correlations revealed negative correlations between willingness to listen to farmers and employee dressing code. On the other hand, cane theft in transit negatively affected willingness to listen. Logistic regression revealed that willingness to listen to farmers partially mediated the relationship between cane theft in transit and customer loyalty by 9.62%. These findings are expected to enable cane transport owner managers increase enterprise profitability. Sugar cane sector policy makers are expected to use the findings to address the dwindling fortunes of the sugar sector in Kenya.
KEY WORDS: Mediation model, Consumer Satisfaction, Ethical treatment enterprise performance.

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Introduction

Mediating variables are central to psychology because they explain the processes of psychological phenomena. As a field, psychology focuses on how an organism is intermediate in the link between a stimulus and the response to that stimulus. This focus on the organism that intervenes between stimulus and behavior was recognized early in psychology in the stimulus to organism to response (S-0-R) model (Woodworth, 1928). In this model, the organism, a person for example, translates a stimulus into a response by means of mediating processes within the individual. For example, when a list of words (S) is presented, the person (0) memorizes them and then later recalls (R) the words. This S-0-R model has been extended to understand mediating

processes for other units besides individuals such as schools, teams, and communities-and is now widely used to develop and refine prevention and treatment programs (Kazdin, 2009; MacKinnon, 2008). Psychological theories specify mediating mechanisms that may explain psychological phenomena. For example, the theory of reasoned action (Fishbein&Ajzen, 1975) in social psychology postulates that attitudes cause intentions, which in turn causebehavior. Applying this theory to intervention research for smoking, an intervention must first change the attitudes toward the consequences of

smoking, intentions to smoke, and perceptions of efficacy toward quitting, so that the person can eventually stop smoking. In cognitive psychology, memory processes mediate the transmission of information into a response. When a number of words are presented, using pictorial cues may be more effective for word recall than memorizing the words in the presented order. Social learning theory describes how various behaviors are learned in social settings. For example, when a child watches a model being reinforced for performing a certain behavior, the child will later produce the same behavior under the same circumstances as a result of this learning process (Bandura, Ross, & Ross, 1963). In clinical psychology, a cognitive theory of depression suggests that changing cognitive attributions about the self or the world reduces depression (Beck, Rush, Shaw, & Emery, 1979). In developmental

psychology, a theory of attachment postulates that deprivation at birth leads to developmental deficits, which lead to poor subsequent parenting behavior (Arling& Harlow, 1967). In the simplest mediation theory, the investigation of mediation specifies a chain of relations by which an antecedent variable affects a mediating variable, which in turn affects a dependent variable. Mediating variables can be behavioral, biological, psychological, or social constructs that transmit the effect of one variable to another variable. There are two overlapping applications of mediation theory. One major application of mediating variables is after an effect is observed and researchers investigate how this effect occurred. This application arises from Hyman's (1955) and Lazarsfeld's (1955) outlines of elaboration methodologies. In this framework, a third variable is inserted into the analysis of an X~ *Y* relation to improve the understanding of the relation, that is, to determine whether the relation is due to a mediator or is spurious. The most notable citation for this approach to mediation theory is the classic Baron and Kenny (1986) article, which clarified the steps to assess mediation described in earlier references (Hyman, 1955; Lazarsfeld, 1955). Another type of application of mediation theory is selecting the mediating variables for intervention on the basis of theories specifying the causes of the dependent variable or on prior research demonstrating that these are candidate causal variables of the dependent variable. If the mediating variables are causally related to the dependent variable, then changing the mediating variables will change the dependent variable. For example, in drug prevention programs, mediating variables such as social norms or expectations about drug use are targeted to change a dependent variable such as drug use. Many researchers have emphasized the importance of considering mediation in treatment and prevention research (Baranowski, Anderson, *&:* Carmack, 1998;Judd *&:* Kenny, 1981a, 1981b; Kazdin, 2009; Kraemer, Wilson, Fairburn, *&:* Agras, 2002; MacKinnon, 1994; Weiss, 1997). Evaluating mediation to explain an observed effect is probably more susceptible to chance findings than evaluating mediation by design because the mediators in the former case are often selected after the study, whereas the mediators in the latter case are selected in advance on the basis of theory and prior empirical research. Most programs of research investigating mediating variables employ both mediation by design and mediation for explanation approaches (MacKinnon, 2008, Chapter 2).

In the Kenyan context, poor treatment of farmers and cane transport employees by cane transport companies in Mumias Sugar Belt is common practice, yet Berry et al (1996) views the employee as an internal customer who like external customers desire that their needs are satisfied in order to enhance organizational performance. Such vices add up to significant losses sustained every year in business. This is worrying given that 75% of MSEs are on decline in Kenya after three years of inception (Kibas 2001). It is against this background that a study is commissioned identifying unfair treatment to farmers (X), their satisfaction(M) and the respective enterprise performance(Y) as variables to be fitted in Kenny and Baron (1986) model to test if mediation exists between the variables.The study sot to explore the possibility of customer satisfaction as a mediator between direct effects between unfair treatment to customers and enterprise performance. The study similarly sot to prove that a firm profitability is informed by customers satisfaction.

Findings of this study will go a long way in forming the basis forsound policies by Kenyan government in addressing the dwindling fortunes of the sugar sector in the country. Cane transport owner managers are expected to use these findings to improve service to farmers and improve their firm's profitability. The study was challenged by lack of response by some respondents. This limitation was however addressed by increasing the number of questionnaires by 15% so as to make up for non-response.

Methodology

The study population

The study population for this study comprised of the key stakeholders in the sugar industry who were likely to be affected by cane haulage services. These included 75,000 sugarcane farmers spread across the four counties in Mumias Sugar Belt.

Determination and allocation of sample sizes

A sample size decision model developed by Krejcie and Morgan (1970) was used to determine the sample size of 382 respondents who were made up of farmers. According to Krejcie and Morgan's (1970) model, an estimate of 382 respondents was a fair representative size of a population of 75,000 farmers.

The study sample based on 90% response rate of farmers consisted of 343participantsdistributed in target groups as shown in Table 2

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Table 1: Summary of sample size distribution

Category	County	Study Population (N_i)	Sample Allocated (n_i)	Sampling method	Data collection instrument
Farmer	Kakamega	30000	141		Questionnaire
	Siaya	10000	43	Cluster	
	Busia	15000	69		
	Bungoma	20000	90		
	Total (N)	**75000**	**343**	Simple	

Source: Generated for the study

Since farmers were spread in the four counties that form Mumias Sugar Belt as displayed in table 1, sample sizes were distributed in the counties in proportion to their target population. Kakamega being the largest was assigned a sample size of 141 respondents followed by Bungoma with 90 respondents

Sampling Design

Cluster sampling method was used to sample respondents in their respective counties. Simple random was then used on the same respondents after clustering.

Model specification

The study was multivariate with a mediating variable calling for a mediation model. The single mediator model utilized in the study is shown in figure 1 Where the variables X (ethical treatments to customers), M (customer satisfaction) and Y (enterprise performance) are in triangles and the arrows represent relations among the variables.

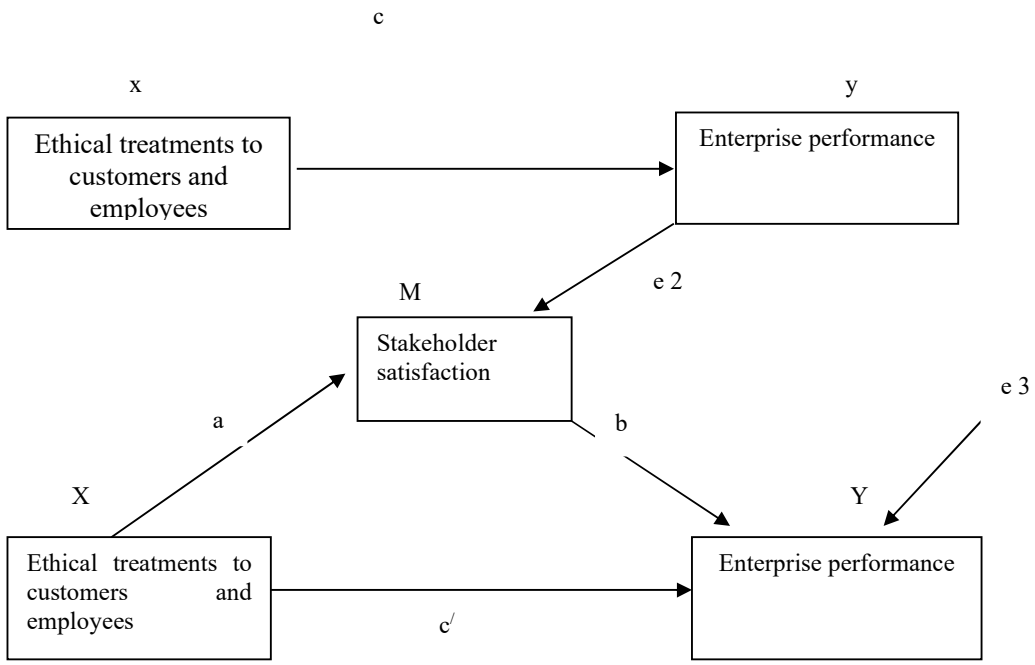

Figure1: Kenny and Barron (1986)

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c = the relation of X to Y

a = the relation of X to M,

b = the relation of M to Y adjusted for X

c/=the relation of X to Y adjusted for M.

The symbols e 2 and e 3 represent residuals respectively. The model effect seeks to show that there is a direct effect relating X to Y and a mediated effect by which X indirectly affects Y through M.

The model equations recommended for the study are as follows:

$$Y = i_1 + cX + e_1 \ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

$$Y = i_2 + c'X + bm + e_2 \ldots\ldots\ldots\ldots (2)$$

$$M = i_3 + ax + e_3 \ldots\ldots\ldots\ldots\ldots\ldots (3)$$

Where i_1, $i_2$and i_3 are intercepts, X (ethical treatments to customers and employees is the independent variable), Y(enterprise performance is the dependent variable), M (customer and employee satisfaction) is the mediator, c is the coefficient relating the independent variable and the dependent variable, c′ is the coefficient relating the independent variable to the dependent variable adjusted for the mediator, b is the coefficient relating the mediator to the dependent variable adjusted for the independent variable, a is the coefficient relating the independent variable to the mediator and e_1,e_2 and e_3 are residuals.The widely used method to assess mediation is the causal steps approach outlined in the classic work of Barron and Kenny (1986) which this study adopted.

Data analysis and presentation

This research study utilized descriptive statistics such as frequencies as well as cross-tabulation to explore the data in relation to responses and correlations among the various indicators for ethical treatment, job satisfaction, and enterprise performance. The indicators identified to be associated were subjected to further analysis according to Kenny and Baron (1986).

Logistic regression was used to examine hypothesised relationships. Logistic regression was preferred because if either the mediator of the outcome are dichotomies, standard methods of estimation are not appropriate, Kenny and Barron (1986). This method enabled the study to include ordinal dependent and independent variables into the models in a way that (1) explicitly recognizes their ordinalty, (2) avoid arbitrary assumptions about their scale and (3) allows for analysis of ordinal variables within a common statistical frame work, (Schwab 1992).

The indirect effect of independent variable on dependent variable was analyzed via bootstrapping according to MacKinnon et al (2007) in which 3,000 trials was performed. Recently, MacKinnon and Dawyer (2012) raised concerns that Sobel test has been found to be very conservative. It requires a very large sample size and assumes that data is normally distributed, (Preacher and Hayes, 2004). Instead, Preacher and Hayers (2008) recommended bootstrapping approach which can be used with non-parametric data as it does not make any assumptions about data being normally distributed. It can also be used with small sample sizes. As a result, Hayes and Preacher (2008) wrote SPSS and SAS macros for tests of indirect effects through bootstrapping. They were found to be

appropriate in analysis and hypotheses tests in this study. The macros used for the study were downloaded from: http://www.comm.ohio-state.edu/ahayes/sobel.html. Hence, the preference to adopt this approach to the Sobel tests of effect size of an indirect effect. Since the predictor was a dichotomy, the partial correlation was Cohen's *d* for effect sizes and not partial correlations (r). Because an indirect effect was the product of two effect sizes, the effect size was the product of partial correlations (r*r) or Cohen's d times the partial correlation (d*r). A summary of methods used in analysing the data is presented in table 3.4 to depict specific objective, variables of the study, the design used and appropriate methods of analysis.

All data was analyzed at a significance level of 5 percent using the Statistical Packages for Social Scientist (SPSS), Version 16.

Table 1 brings out a summary of study objectives, their respective variables, research design used and the appropriate methods of data analysis.

Table 2. Summary for Objective, Variable and Research Design

Objective	Indicator	Research design
Mediating effects of customer satisfaction on ethical treatment to farmers and enterprise performance	Ethical treatment to farmers Customer satisfaction Enterprise performance	partial correlation design

Source: Generated for the study

Table 3 brings out a summary of study objective, the respective variables, research design used and the appropriate methods of data analysis.

Table 3: summary table for objective, variable, research design and Analysis method

Objective	Indicator			Research design	Analysis Method
	Independent Variable	Dependent Variable	Mediating Variable		
Mediating effects of customer satisfaction on ethical treatment to farmers and enterprise performance	Ethical treatment to farmers	Enterprise performance	Customer satisfaction	Partial correlational design Kenny and Barron (1986) logistic	Descriptive analysis Pearson Rho

Generated for the study

Results and discussions

Farmers'responses on ethical treatment towards customers

Ethical treatment towards farmers on enterprise performance was evaluated on the basis of farmers' perspective to address the first study objective. This information was useful in examining whether the content of ethical treatment towards farmers had a relationship with enterprise performance. Thus, the results in this section were based on the following ethical treatment indicators; farmers involved by cane transport companies in decisions regarding transport service, farmers who have had their cane spilled while on transit, farmers trust drivers with their cane, cane transport companies contribute very generously towards community needs, farmers treated well by cane transport companies, and farmers cane stolen on transit.

The responses were analysed on a five-point Likert scale, that is, "No at all" (NA), "to a small extent" (SE), "Neutral" (N), "To a great extent" (GE), and "To a very great extent" (VGE) with values 1, 2, 3, 4, and 5, respectively and reported in Table 4

Table 4: Frequencies of Responses on Ethical Treatment Towards Farmers

Statement		NA	SE	N	GE	VGE	TOTAL
Farmers involved by cane transport companies in decisions regarding transport service	**F**	284	62	2	1	1	350
	%	81.1	17.7	0.6	0.3	0.3	100
Farmers who have had their cane spilled while on transit	**F**	1	1	1	155	192	350
	%	0.3	0.3	0.3	44.2	54.9	100
Farmers trust drivers with their cane	**F**	189	136	11	13	1	350
	%	54.0	38.9	3.1	3.7	0.3	100
Cane transport companies contribute very generously towards community needs	**F**	233	110	6	0	1	350
	%	66.6	31.4	1.7	0	0.3	100
Farmers treated well by cane transport companies	**F**	208	123	9	8	2	350
	%	59.4	35.1	2.6	2.3	0.6	100
Farmers' cane stolen on transit	**F**	39	34	31	101	145	350
	%	11.1	9.7	8.9	28.9	41.4	100

Source: Survey Data

Farmers responses on cane transport enterprise performance

The responses of farmers on cane transport enterprise performance based on the first objective, helped determine whether the content of ethical treatment towards farmers had a relationship with their perception of cane

transport enterprise performance. The indicator included;farmers perception on enterprise reputation of cane transporters, farmers perception on employee commitment of cane transporters, farmers perception on public image of cane transporters, farmers' goodwill to cane transporters, and farmers' perception on customer loyalty of cane transporters.

A seven-point Likert scale was used in capturing these response that entail; Extremely Displeased (ED), Displeased (D), Slightly Displeased (SD), Neutral (N), Slightly Pleased (SP), Pleased (P) and Extremely Pleased (EP) with corresponding values of 1, 2, 3, 4, 5, 6, and 7 respectively. The results were displayed in Table 5

Table 5: Response of Farmers on Enterprise Performance

Statement		ED	D	SD	N	SP	P	EP	TOTAL
Farmers' perception of enterprise reputation of cane transporters	**F**	135	67	89	49	4	6		350
	%	38.6	19.1	25.4	14.0	1.2	1.7		100
Farmers' perception of employee commitment of cane transporters	**F**	102	122	83	18	18	7		350
	%	29.1	34.9	23.8	5.1	5.1	2.0		100
Farmers' perception of public image of cane transporters	**F**	113	109	78	45	5			350
	%	32.3	31.1	22.3	12.9	1.4			100
Farmers' goodwill to cane transporters	**F**	148	114	69	9	7	3		350
	%	42.3	32.6	19.7	2.5	2.0	0.9		100
Farmers' perception of customer loyalty of cane Transporters	**F**	133	95	64	13	19	23	3	350
	%	38.0	27.1	18.3	3.7	5.5	6.6	0.9	100

Source: Survey Data

Farmers' satisfaction indicators

Several indicators on farmers' satisfaction were used to assess whether the content of customer satisfaction had a mediating role between ethical treatment towards farmers and farmer perception of enterprise performance. These indicators consisted of perceived; quality of cane transport services, cost of cane transport services, staff conduct, speed of cane trucks, dressing code of employees, efficiency of services, responsiveness to customer request, willingness to listen to farmers. All responses were derived from a five-point Likert scale and included;"Very Dissatisfied" (VD), "Dissatisfied" (D), "Neutral" (N), "Satisfied" (S), and "Very Satisfied" (VS) having corresponding values of 1, 2, 3, 4, and 5, respectively.

The results were recorded in Table 6

Table 6: Response Frequencies of Farmer Satisfaction

Statement of satisfaction with		VD	D	N	S	VS	TOTAL
Quality of cane transport services	**F**	131	172	25	22	0	350
	%	37.4	49.2	7.1	6.3	0.0	100
Cost of cane transport services	**F**	192	147	5	6	0	350
	%	54.9	42.0	1.4	1.7	0.0	100
Staff conduct	**F**	17	146	90	89	8	350
	%	4.9	41.7	25.7	25.4	2.3	100
Speed of cane trucks	**F**	30	145	88	75	12	350
	%	8.6	41.4	25.1	21.5	3.4	100
Dressing code of employees	**F**	5	46	118	161	20	350
	%	1.4	13.2	33.7	46.0	5.7	100
Efficiency of services	**F**	83	232	22	12	1	350
	%	23.7	66.3	6.3	3.4	0.3	100
Responsiveness to customer request	**F**	139	187	16	8	0	350
	%	39.7	53.4	4.6	2.3	0.0	100
Willingness to listen to farmers	**F**	115	182	29	24	0	350
	%	32.9	52.0	8.2	6.9	0.0	100

Source: Survey Data

Hypotheses Testing

H_0^1: Ethical treatment towards farmers (customers) has no effect on enterprise performance (Path c)

To test this hypothesis, frequencies, correlations and the binary logistic regression models were used to establish whether there was a relationship betweenethical treatment towards farmers (independent variables) and enterprise performance factors (dependent variables). The results are displayed in tables4 below. The tables display frequencies, Pearson correlations between ethical factors and enterprise performance factors and regression for step1 of Kenny and Barron (1986) steps.

Pearson correlations of ethical treatment towards farmers and enterprise performance

Pearson correlations were obtained between variables that measured farmer's responses on ethical treatment towards farmers to ascertain the extent to which the variables were correlated and results recorded in table 7 on the next page.

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Table7: Pearson Correlation of farmer ethical factors and enterprise performance factors (p-value)

Farmer	**Enterprise Performance Indicators**				
Ethical Factor	FPEP1	FPEP2	FPEP3	FPEP4	FPEP5
ETF3	0.315	0.057	-0.025	0.228	0.052
	(0.000)**	(0.291)	(0.647)	(0.000)**	(0.330)
ETF5	-0.029	-0.048	-0.021	-0.029	-0.066
	(0.583)	(0.375)	(0.700)	(0.583)	(0.219)
ETF6	-0.037	0.012	0.079	-0.150	-0.196
	(0.485)	(0.821)	(0.141)	(0.005)**	(0.000)**

**P-value < 0.05

Key:

ETF3	Farmers trust drivers with their cane
FPEP1	Farmers perception on enterprise reputation of cane transporters
FPEP4	Farmers goodwill to cane transporters
FPEP5	Farmers perception on customer loyalty of cane transporters
ETF6	Farmers cane stolen on transit

Source: Survey Data

In table 7, there were two indicators of ethical treatment towards farmers with significant correlations with enterprise performance indicators. Farmers trust drivers with their cane (ETF3) had a positive correlation with enterprise reputation (FPEPI) r= 0.315, (P<0.05). This means that when their trust in drivers increased, enterprise reputation also went high. This is a linear relationship. It equally had a significant positive correlation with farmers goodwill to sugarcane transport companies (FPEP4) r = 0.228 (P<0.05). This means that when their trust in drivers increased, they gave more goodwill to the companies. On the other hand, sugarcane theft in transit had a significant negative correlation with farmers' goodwill to cane transporters (FPEP4) r= -0.150 (P= < 0.05) and a negative correlation with customer loyalty; (FPEP5) r= -0.196 (P<0.05). This means that when cane theft in transit increased, farmers' goodwill to transporters decreased. Similarly, when cane theft in transit increased, their loyalty to sugarcane transporters went down. This offers preliminary rejection of HI_{01} (P<0.05). These relationships compare well with Webster (1992) who concluded in his study that unethical businesses perform

poorly. These relationships were subjected to Baron's assumptions to ascertain the true nature of relationship and results were reported in table 8 and figure 2 The Table and figure display the logistic regression outputs of the four steps of Kenny and Barron (1986).

Table 8displayspath c of the four mediation steps of Kenny and Barron (1986)

Table 8:Path c of Baron and Kenny four Steps

Step path(s)	Regression and Predictor tested		Outcome	Unstandardized coefficient B	Standardized coefficient Beta	95% CI LL UL	P Value	Effect Size	Power Analysis
1	c	ETF6	FPEP5	-.143	-.196	-.218 to -.067	<.001**	d= -.434	.39

**P-value< 0.05

KEY:

FPEP5	Farmers' perception on customer loyalty of cane transporters
ETF6	Farmers' cane stolen on transit

Source: Survey Data

According to Table 8, step 1 of Baron and Kenny (1986) passed. This suggests that there was evidence that ethical treatment towards farmers; cane theft in transit was negatively related to farmers perceived customer loyalty to cane transporters,B = -0.143, (P< 0.05) with a small effect size of (d = -0.434). This means that when cane theft in transit increased, farmers' loyalty to cane transporters decreased. This relationship is inverse. As a result, the null hypothesis H01was rejected and the alternative accepted thus cane theft while in transit influenced customer loyalty.

H_0^2: Ethical treatment towards farmers has no effect on customer satisfaction (Path a)

This subsection ascertains the validity of the second step involved in the Kenny and Baron (1986), on whether there was any significant relation between the independent variable(s) and the hypothesized mediating variable(s). To achieve this, frequencies on customer satisfaction indicators, Pearson correlations between ethical treatment towards farmers' indicators and customer satisfaction, and logistic regression were used and displayed in the foregoing subsections.

Pearson correlations between farmer ethical factors and customer satisfaction factors

Table 9 presents the correlation results between these variables. Only those independent variables (ETF3 and ETF6) that were significantly related in Table 6 were used with customer satisfaction indicators identified in

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Table 8 to further assess the steps of Baron (1986). The table displays correlations between ethical treatment towards farmers' factors and customer satisfaction factors.

Table 9: Pearson Correlations Between Farmer Ethical Factors and Customer Satisfaction (p-value)

	Customer Satisfaction Factor							
Ethical Factor	CS1	CS2	CS3	CS4	CS5	CS6	CS7	CS8
ETF3	0.067	-0.027	0.036	0.085	-0.124	0.037	-0.031	0.060
	(0.209)	(0.615)	(0.496)	(0.112)	(0.071)	(0.490)	(0.560)	(0.263)
ETF6	-0.062	-0.010	-0.068	0.030	-0.141	-0.003	0.017	-0.118
	(0.250)	(0.858)	(0.203)	(0.572)	(0.008)**	(0.951)	0.756	(0.027)**

** P-value < 0.05

Key:

ETF3 Farmers trust drivers with their cane

ETF6 Farmers cane stolen on transit

CS5 Dressing code of employees

CS8 Willingness to listen to farmers

Source: Survey Data

Table 9 suggested that there was a significant negative relation between farmer's cane stolen on transit (ETF6) and farmer's satisfaction with willingness to listen to them (CS5) r=0.141(P<0.05). This means that the more you listen to farmers grievances, the less the cane theft. This relationship is inverse. Similarly, (ETF6) had a negative correlation with the dressing code of employees of cane transport companies (CS8) r=-0.118 (P<0.05). This means that the more the cane theft in transit, the less their satisfaction with dressing code. This offers preliminary rejection of H102. This correlation was subjected to further analysis through Barron's assumptions via logistic regression to test indirect effect, and reported step 2 intable 10. The result measures indirect effect along path a.

Table 10 displays path *a* of the four mediation steps of Kenny and Barron (1986)

Table 10:Path (a) of Baron and Kenny Four Steps

Step	Regression path(s) tested	Predictor	Outcome	Unstandardized coefficient B	Standardized coefficient Beta	95% CI LL	95% CI UL	P Value	Effect Size	Power Analysis
2	*a*	ETF6	CS8	- .154	-141	.040 to	.268	.008**	d = .310	1

**P-value < 0.05

Key:

ETF6 Farmers' cane stolen on transit

CS8 Willingness to listen to farmers

Source: Survey Data

Step two of Kenny and Barron(1986) passed B = - 0.154,(P≤ 0.05) with a small effect size (d = .310). This suggests that there was evidence that ethical treatment towards farmers ETF6 (Farmers cane stolen in transit) has a significant negative relationship with customer satisfaction with willingness to listen (CS8). This means that the more the transporters were willing to listen to farmers' grievances, the less cane theft was reported. Consequently,$H1_{02}$ is rejected and the alternative accepted. Thus, cane stolen in transit affects farmers' satisfaction with willingness to listen.

H_{03}: Customer satisfaction has no mediating effect on the relationship between ethical treatment towards farmers and enterprise performance (Path b and c')

The results in table 11 and figure 2 for path ***b*** and ***c'*** were obtained to test whether the mediating variable significantly mediated the relationship between the independent variable and the dependent variable in the model. The table and figure show the output of logistic regression of step 3 and step 4 of Kenny and Barron (1986).

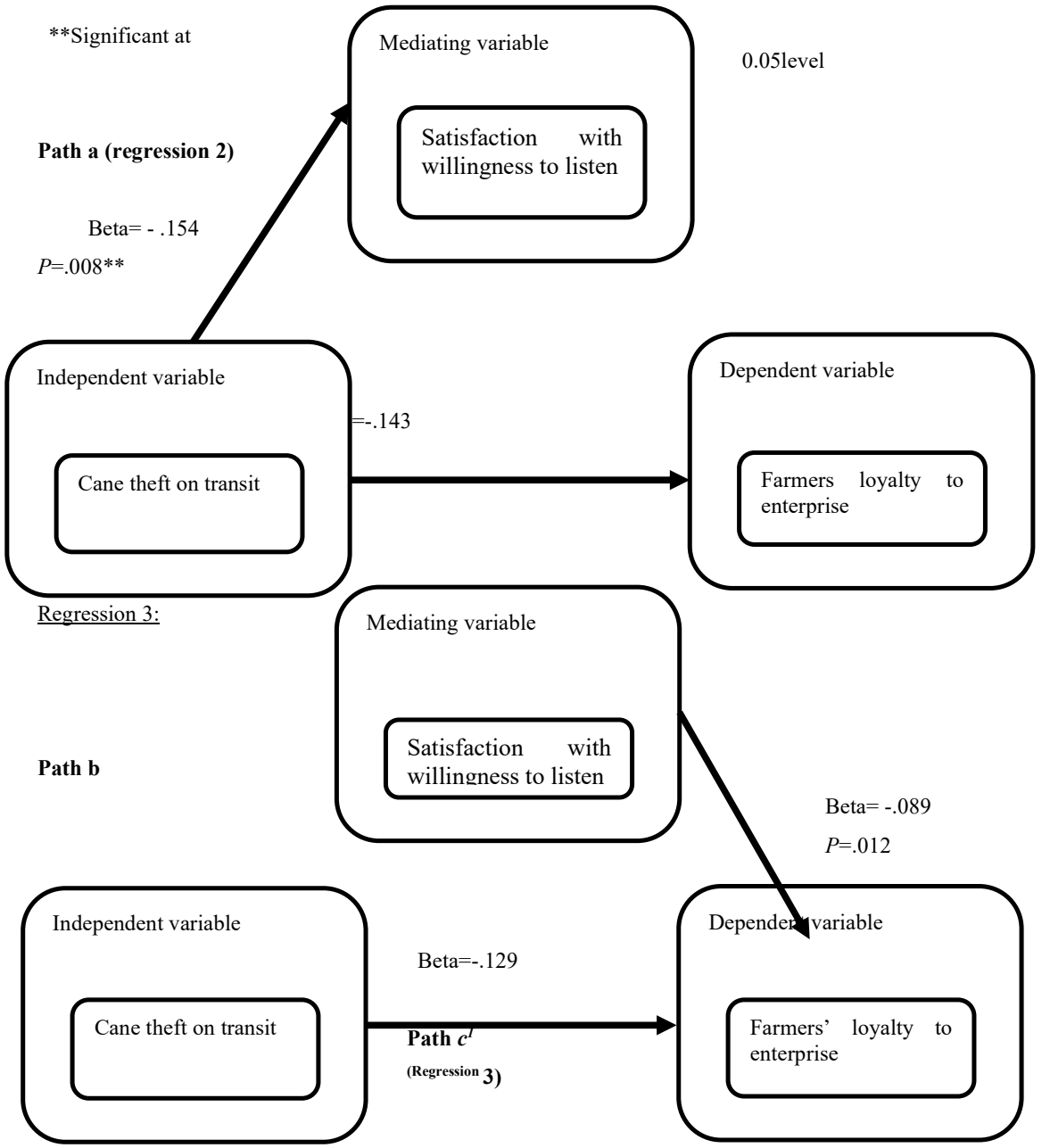

Figure 2: Diagrammatic representation of the four-step regression for cane theft on transit, satisfaction with willingness to listen to farmers and farmers' loyalty to enterprise

Table 11 displays the four mediation steps of Kenny and Barron (1986)

Table 11: Four Mediation Steps of Baron and Kenny (1986)

Step	Regression path(s) tested	Predictor	Outcome	Unstandardized coefficient B	Standardized coefficient Beta	95% CI LL	95% CI UL	P Value	Effect Size	Power Analysis
1	c	ETF6	EFEP5	-.143	-.196	-.218 to -.067		<.001**	d= -.434	.39
2	a	ETF6	CS8	-.154	-141	.040 to .268		.008**	d = .310	1
3	b	CS8	EFEP5	-.089	-.133	.159 to -.020		.012**	r = -.135	1
4	c'	ETF6 ↑ CS8	EFEP5	-.129	-.177	-.205 to -.053		<.001**	d = -395	1

****P-value<0.05**

Key:

ETF6	Farmers cane stolen on transit
CS8	Willingness to listen to farmers
EFEP5	Farmers perception on customer loyalty

Table 12 Bootstrap results for the mediation model of farmer ethical treatment factors, satisfaction and performance

Boostrap results for indirect effect	Standard Error	CI 95% LL	CI 95% UL	Effect Size	Total Effect % Mediated
-.013	.007	-.035 to -.003		d*r=-0.042	9.62%

n=350 farmers, bootstrap sample size = 1000 trials, LL = lower limit, UL=upper limit, CI=confidence interval

Source: Survey Data

From table 11 both steps 3 and 4 passed. The direct effect from ethical treatment towards farmers of cane theft on transit to farmers loyalty to enterprise reported a reduced coefficient from the initial B = -.143 ($p < .001$) to B=-0.129 ($p<0.001$) in absolute values. Since this step measured the indirect effect, the bootstrap estimated path **ab** to be B = -0.014, ($P< 0.016$) with a small effect size (d*r = - 0.042). The percentage of the total effect or $\mathbf{c}^{/}$ + **ab**that is mediated is equal to 9.62%. Given that the indirect effect is statistically significant but the percentage of the total effect mediated is less than 80%, it is concluded that farmers satisfaction with willingness to listen (CS8) partially mediates the relationship between cane theft in transit (ETF6) and farmers loyalty to company (EFEP5). This shows evidence of partial mediated relationship of the effect of ethical treatment towards farmers; cane theft in transit and farmers' loyalty to enterprise. Consequently, $H1_{03}$ is rejected and the alternative accepted.

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