

# Mediation-Moderation Modeling in Marketing Research Literature Review and Classification

Robert Kristaung<sup>a\*</sup>, Sri Vandayuli Riorini<sup>b</sup>, <sup>a,b</sup>Trisakti University, Faculty of Business and Economics, Jakarta, Indonesia, Email: <sup>a\*</sup>[robert\\_kristaung@trisakti.ac.id](mailto:robert_kristaung@trisakti.ac.id), <sup>b</sup>[rini\\_keloko@yahoo.co.id](mailto:rini_keloko@yahoo.co.id)

This paper aimed to explore and remap the functions and roles of mediating and moderating variables from various research papers and their use in marketing management research. The literature review method used refers to using the thematic content analysis approach and qualitative analysis. The research findings were a single mediation model with full mediation classification, partial mediation, complementary mediation, and competitive mediation. Both single moderation models with classification homologizer moderation, quasi moderation, and pure moderation. Finally, a combination of mediation and moderation models with separated mediation-moderation classification and complementary mediation-moderation. With the increasingly complex modeling that is proposed and tested, the clarity of the statistical tools used is very important to disclose, as one component of the assessment of qualitative marketing research.

**Key words:** *Mediation, Moderation, Mediation-moderation modeling, Marketing research.*

## Introduction

Publication of scientific papers in national and international journals, as well as theses and dissertations, we are often confused with various derivative terminologies of what are called variables. Variables in a simple way can be said as a concept that has a variety of values (Kristaung & Agustine, 2018). What exactly is the understanding of the concept itself? then the reference written by Ihalauw becomes interesting that the concept has two levels, namely the abstract and the empirical level (Ihalauw, 2000). And actually, the concept itself cannot be separated from the paradigm as stated by Kuhn (1970).



Derivatives of variables are very numerous and often exchanged with each other, thus confusing beginner researchers. An example in strategic management is research from Richard; Daihani; & Kristaung (2018) which proves the existence of the role of corporate social responsibility as a moderator variable but is more appropriate with mediation terminology, namely between strategic orientation and dynamic capability with the performance banking industry in Indonesia.

Likewise with the research from Taylor, Halstead & Haynes (2010) which interacts between independent variables and mediation in testing the mediation function which is more conceptually and mathematically more precisely categorized as a moderating variable. Not only that, for mathematical modeling that is not very different between variables called independent, exogenous, predictor, antecedent, intervening, suppressor and control. Similarly for non-independent or dependent variables with mathematical modeling for endogenous variables, criterion or outcome variables (Sharma, Durand & Gur-Arie, 1981; Baron & Kenny, 1986; Hair, Anderson, Tatham & Block 2009; Salkind, 2012).

The use of mathematical notation is often exchanged between exogenous variables and endogenous variables as in the writings of Gunzler, Chen, Wu, & Zhang (2013) who are popularly referred to as determining the criteria for mediating variables. In the writing, the visual model uses the LISREL standard notation which is not quite right, that is, the gamma coefficient is visualized to affect fellow endogenous variables. Similarly, beta coefficient notation is inappropriate. So to eliminate this confusion in this paper use the LISREL notation standard developed by Joreskog and Sorborn (Jöreskog, Olsson, & Wallentin, 2016; and Hair et al, 2009). The aim is as stated by Bagozzi & Yi (2012) "A need exists to consider the art and practice of specification, evaluation, and interpretation without sacrificing too many technical considerations. "

In its development, the terminology of mediation, moderator, intervening and control variables that appear visually or diagrammatically raises confusion and debate regarding the actual roles and functions of the four variables mentioned. However, when looking at the derivatives of mathematical equations in multivariate analysis, they are actually based on multiple correlation analysis (MCA) and multiple regression analysis (MRA) and path analysis (Wright, 1934; Gujarati, 2004; Jöreskog et al., 2016) to explain or predict effects or the influence of one dependent variable on the other dependent variable. Of course mathematical modeling changes compared to the mathematical model developed at first, as for MRA using path analysis with decomposition techniques and MRA with mathematical models of reduced form as stated by Gujarati (2004), "From the structural equations one can solve for the endogenous variables and the reduced form equations and the associated reduced form coefficients. A reduced-form equation is one that expresses an endogenous variable solely in terms of the predetermined variables and the stochastic disturbances."



This paper itself aims to explore and remap the functions and roles of mediating and moderating variables from various experts and their use in various studies, which are more specialized in the field of marketing management. Baron & Kenny (1986) themselves have asserted that the most important role of the two variables is to be the third variable used in testing the model. The first variable is, of course, the independent variable and the second variable is the dependent variable.

### **Mediating, Moderating and Mediating-Moderating Modeling in Marketing Research** *Function and Role of Mediation Variables*

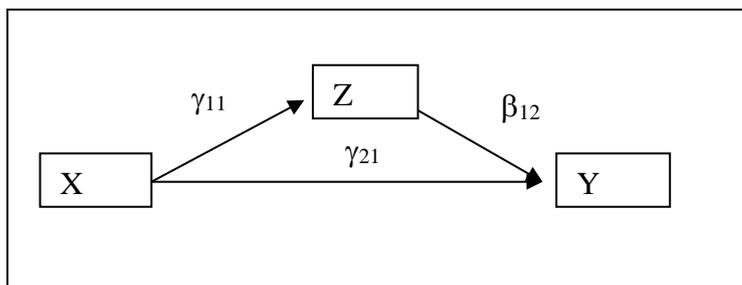
The discussion of mediation variables, including moderation, of course, is inseparable from the famous name Baron & Kenny (1986) which reviews conceptual and strategic mediation and moderation variables, including statistical considerations. Both explain that a third variable has a mediating function of the relationship between independent variables and non-independent variables. In essence, being treated as a mediating variable can provide predictions and explanations of how and why the (indirect) effect occurs. An example in the field of marketing that can be referred to is research conducted by Chen, (2012) who wants to prove the mediating function of trust, involvement variables, perceived value and commitment between customer satisfaction and customer loyalty. Which findings enrich the theory of relationship marketing, namely "the study suggests that perceived value proves to be complete mediators of satisfaction and loyalty, while commitment, trust, and involvement can prove to be partial mediators of satisfaction and loyalty. These findings indicate another role of commitment, trust, involvement, and perceived value in the formation of customer loyalty (Chen, 2012).

Perhaps an example or illustration that is more general and easy to digest if we look at the explanation put forward by Gunzler et al. (2013) which describes the path diagram for the causal relationship of the three variables namely preventive program (X), social norm (Z), and number of smokers (Y). In this example, all variables that are influenced by other variables - social norms and number of smoking - are endogenous variables, whereas variables that only affect other variables without being influenced by other variables - prevention programs - are exogenous variables. Logically simple what Gunzler et al. (2013), that no matter how good a cigarette prevention program is carried out by the government, for example, it will be something in vain if it is not linked (mediation) by planting or changing values at the norm of society. The more permissive the community is towards smokers, the more certain the program will certainly be ineffective. Another example referred to by Zhao, Lynch, & Chen (2010), "For example, a researcher might posit that condom availability (X) has a positive risk of sex with multiple partners (Y). M), that marketing products as remedies create "get-out-of-jail-free cards."

### **Mediation Variable Criteria**

A variable that functions as a mediator when fulfilling the following conditions: (a) exogenous variable ( $\xi_1$ ) significantly influences the variable ( $\eta_1$ ) which is assumed to have a mediating function (path  $\gamma_{11}$ ), (b) Mediation variable ( $\eta_1$ ) has a significant effect on the variable dependent ( $\eta_2$ ) denoted by line b, and (c) when the path coefficients  $\gamma_{11}$  and  $\beta_{12}$  are controlled, the previous significant relationship between the independent and dependent variables is no longer significant, with a strong mediating function. This occurs when the path coefficient  $\gamma_{21}$  is zero (Figure 1). Concerning the last condition, we might imagine a continuum. When Path  $\gamma_{21}$  is reduced to zero, Baron & Kenny (1986) state to be strong evidence for the dominant single mediator. If the line residue  $\gamma_{21}$  is not zero, this indicates a mediation function.

**Figure 1.** Mediation Variable Model with LISREL Notation



The mediating effect occurs when a third variable intervenes in the relationship between two variables. One of the basic requirements of a functioning variable as a mediating variable is the existence of a significant correlation between the three variables. But a researcher can test mediating variables in several ways.

Because the relationship or function of mediation is not easily determined, in addition to the theoretical basis statistically several ways that have been commonly used other than SEM or the GLM (General Linear Model) approach, including multiple regression analysis of course (Hair et al. 2009). Using illustration 1, the steps that can be taken:

- a. Significant correlation relationship:
  - a) Is the relationship/correlation of X ( $\xi_1$ ) with Z ( $\eta_1$ ) significant?
  - b) Is the correlation/correlation X ( $\xi_1$ ) with Y ( $\eta_2$ ) significant?
  - c) Is the relationship/correlation of Z ( $\eta_1$ ) with Y ( $\eta_2$ ) significant?
- b. If the correlation coefficient c between X and Y ( $\eta_2$ ) is significant, it does not experience changes, including the addition of Z ( $\eta_1$ ) as a predictor variable in the model, then the mediating function variable Z ( $\eta_1$ ) is not supported.

- c. If the path coefficient  $\gamma_{21}$  is omitted, while the results of predictor variables X ( $\xi_1$ ) and Z ( $\eta_1$ ) to Y ( $\eta_2$ ) are significant, the mediating function variable Z ( $\eta_1$ ) is supported.
- d. If the coefficient c is omitted because it is not significant, but variable Z remains as the construct of mediation, then full mediation is supported.

Hair et al. (2009) explains the following about the mediation function of a variable Z ( $\eta_1$ ) hypothesized to have a mediating function between variables X ( $\xi_1$ ) and Y. Similarly, the variable Z ( $\eta_1$ ) is hypothesized to have a mediating function between X ( $\xi_1$ ) and Z ( $\eta_1$ ). If the fit model is accepted, then C as the mediating variable is accepted. Indeed, we can test the direct effect of X ( $\xi_1$ ) on Y ( $\eta_2$ ). Each direct relationship between X ( $\xi_1$ ) to Y, is an indication of the function Z ( $\eta_1$ ) as a mediating variable not supported. However, when the estimation of the path coefficient X ( $\xi_1$ ) to Y ( $\eta_2$ ) is not significant, while the estimation of other path coefficients is significant, the mediation function variable Z ( $\eta_1$ ) is supported.

### ***Mediation Variable Mathematical Model***

Building the best theoretical model is a mathematical equation because diagrammatic visual models make it easier for readers to digest but at the operational level, it must be explained in mathematical modeling whether a test of mediation functions is stated as full mediation or partial mediation.

The equation for linear regression analysis in LISREL notation is as follows:

$$y = \alpha + \gamma_1 X_1 + \gamma_2 X_2 + \dots + \gamma_q X_q + \varepsilon, \quad (1)$$

where  $\alpha, \gamma_1, \gamma_2, \dots, \gamma_q$  are parameter estimates,  $\varepsilon$  is the term error or residual with an average of 0 and the variant  $\sigma^2$ . Errors are assumed not to be related to independent variables  $X_1, X_2, \dots, X_q$ .

Baron & Kenny (1986) suggest that to test whether or not a variable has a mediation function requires several testing steps. Suppose we refer to Figure 1, then four equations are needed to be tested, namely the direct effect of path coefficient c. The path coefficients a, b and c are tested and estimated by the following equations 2, 3, 4 and 5.

$$\begin{aligned} \eta_1 &= \alpha + \gamma_{11} \xi_1 + \varepsilon & (2) \\ \eta_2 &= \alpha_2 + \gamma'_{21} \xi_1 + \varepsilon & (3) \\ \eta_2 &= \alpha_3 + \gamma_{21} \xi_1 + \gamma_{12} \eta_1 + \varepsilon & (4) \\ \gamma'_{21} &= \gamma_{11} \gamma_{12} + \gamma_{21} & (5) \end{aligned}$$

So the first step is to test first whether the mediating variable has a direct effect on the dependent variable ( $\eta_2$ ). The second step regresses the independent variable ( $\xi_1$ ) on the dependent variable ( $\eta_2$ ) whether it has a direct effect. Only the third, simultaneously testing independent variables ( $\xi_1$ ) and mediation ( $\eta_1$ ) to  $\eta_2$ . Until on this side, we do not understand the thoughts set forth by Berry and Kenny (1986) regarding the indirect effects of the similarities. As a solution to find out whether the mediating variable ( $\eta_1$ ) has a significant mediation function or not, both of them borrow the testing done by the famous Sobel with Sobel Z-Test by multiplying the indirect effect of the path coefficient a with b as follows:

$$z = \frac{\gamma_{11} \times \beta_{12}}{\sqrt{\beta_{12}^2 s_{\gamma_{11}}^2 + \gamma_{11}^2 s_{\beta_{12}}^2}} \quad (5)$$

Thus, Berry and Kenny (1986) actually ignore the contribution of testing the direct effects, indirect effects and total effects developed by Wright (1934), whose testing of significance can be done by t-test (*test of joint significance*) not only on the coefficient direct paths but also indirect coefficients can be done, taking into account the correlation between the independent variable ( $\xi_1$ ) and the mediating variable ( $\eta_1$ ) to calculate the indirect path coefficient and whether the t-test is significant or not.

Zhao et al. (2010) provide a critical note on Baron & Kenny (1986) 's thinking about the function of mediating variables that fail to understand when associated with building theory. They give three critical notes. First, the mediation function is strongest when there is an indirect effect but there is no direct effect in equation 3. Second, there is no need for a significant "mediation effect" in equation 2. It is enough to specify the mediation function, that the indirect effect a # b becomes significant. Third, the Sobel test has low power compared to the bootstrap test popularized by Preacher & Hayes (2008).

Hur, Kim, & Woo (2014) who conducted empirical testing of the mediating variables of corporate brand credibility (CBC) and corporate reputation (CR) between corporate social responsibility (CB) and corporate brand equality (CBE) provided interesting results using Preacher procedures and Hayes. The results of a comparison between two indirect effects, namely (CSR  $\rightarrow$  CBC  $\rightarrow$  CBE vs. CSR  $\rightarrow$  CBC  $\rightarrow$  CR) show that indirect effect 1, namely CSR to CBE via CBC is much greater than indirect effect 2, CSR to CR via CBC. Even though the coefficient for the contrast between indirect effect 1 and direct effect 1 is not significant. Meanwhile, the contrast coefficient between indirect effect 1 and direct effect 1 also did not have a significant difference from the value of 0 (95% CI -.20 to .32). Thus, the direct effect of CSR on CR is greater than the direct effect of CSR on CBE. For the record, in previous tests, Hur et al. (2014), successfully proved that corporate brand credibility and

corporate brand reputation have a significant mediating function between CSR and corporate brand reputation.

Zhao et al. (2010) also expanded the mediation classification of Baron & Kenny (1986) over three typologies, namely full mediation variables, partial mediation, and no mediation into five typologies namely complementary mediation, competitive mediation, indirect-only mediation: direct-only non-mediation, and no -effect non-mediation. Zhao et al. (2010) recommend testing significant mediating variables using the bootstrap test for indirect effects  $\gamma_{11} \times \beta_{12}$ . Based on the classification of mediation types from the coefficient parameters  $\gamma_{11}$ ,  $\beta_{12}$ , and  $\gamma_{21}$ . These coefficients can be obtained simultaneously by Structural Equation Modeling (SEM) or by using regression equations 2 and 4. The first step that must be considered is whether the direct effect is significant. This becomes the basis for knowing whether the tested variable has a function of mediation or not (non-mediation), namely:

1. If  $\gamma_{11} \times \beta_{12}$  is significant but  $c$  is not significant, it means that the tested model has indirect mediation.
2. If  $\gamma_{11} \times \beta_{12}$  is not significant but  $c$  is significant, it means that the model tested does not have a mediating function, but a direct effect on the dependent variable (Y).
3. If  $\gamma_{11} \times \beta_{12}$  and  $\gamma_{21}$  are not significant, it means that the tested model has no mediation function at all, only the normal multiple regression equation models.
4. If  $\gamma_{11} \times \beta_{12}$  and  $\gamma_{21}$  are significant, then specify  $\gamma_{11} \times \beta_{12} \times \gamma_{21}$  by multiplying the three coefficients, or multiplying the coefficient  $\gamma_{21}$  with an average value of  $\gamma_{11} \times \beta_{12}$  from the bootstrap output (eg using SPSS or LISREL). If  $\gamma_{11} \times \beta_{12} \times \gamma_{21}$  is positive, the tested model produces complementary mediation variables, but if  $\gamma_{11} \times \beta_{12} \times \gamma_{21}$  is negative, the tested model produces competitive mediation.

Thus, from the description described, we can draw a red thread that in testing mediating variables in structural equation models has two sects or schools of thought, namely the first *data behavior*, MRA (Multiple Regression Analysis) which was popularized by Baron and Kenny (1986), which was then refined using a sampling technique with the Monte Carlo approach. Second, *human behavior*, based on path analysis, was later developed by Wright (1934) and Joreskog (Jöreskog et al. 2016). The mediation classification produced is full mediation and partial mediation with two variants namely complementary mediation and competitive mediation.

### ***Functions and Roles of Moderating Variables***

Baron and Kenny (1986) explain that in general a moderating variable can be qualitative data such as sex, race or social class and quantitative data such as the level of difference in reward

that directly affects or has a strong relationship between variables independent of or with variables dependent, more specifically in the framework of correlation analysis, moderation is a variable whose influence or relationship is a zero-order correlation between the other two variables. But the opinion of Baron and Kenny (1986) has been broken by Sharma et al. (1981) which suggested the existence of three typologies of moderating variables namely homologizer, quasi and pure moderation which will be explained in a separate section. Back to the view that moderation is a variable whose influence or relationship is a zero-order correlation between two other variables. For example, in marketing, research conducted by Homburg & Giering (2001) that variety seeking, age, and income is an important moderation between customer satisfaction relationships with customer loyalty. The moderating function of the three variables is done by multiple-group analysis.

In more popular variance analysis (ANOVA), the moderating effect is represented as the interaction between the independent variable and the independent variable which is a factor in determining the occurrence of moderation. For example, research conducted by (Campbell & Goodstein, 2014) which tests the perceived function of moderation risk, which has always been an independent variable in marketing. The background of this test is inseparable from various previous studies on product category schemes that have congruent moderation functions. One of them is the perceived risk variable as a situational factor that moderates consumer product choices by moderating the preferences for the norm variable. The point is that if a consumer buys a product, it is certain that he will buy a product that is consistent with his perception (for example, milk that is not dented or defective). If the product purchased is not (incongruent products), then if he will continue to buy, whether the reason there is no choice or hurry, then consumers need what is called preferences for the norm. However, if the product is suitable, the moderating preferences for the norm function will not appear. The point is the seller or manufacturer must take this aspect into account.

### ***Moderate Variable Criteria***

Sharma et al. (1981) argue that the moderating variable can be formulated as a modification or systematic form of the strength of the relationship between independent variables and non-independent variables. Even though the conception of moderating variables has been widely accepted, but the validation of the model that has independent variables classified as moderating variables still has not yet had a complete understanding. The categorization of moderation variables in general in various studies refers to the views of Baron and Kenny (1986). First, the moderating variable is the interaction between one independent variable and the other independent variables tested having a moderating function. Second, the independent variables are fully tested as moderation variables (full moderation). And the third most popular is the moderating variable that does not interact with other independent variables, by

testing its significance employing differences between groups (multigroup) on the relationship between independent variables and the dependent variable.

Sharma et al. (1981) state that the initial classification of moderation variables is only two, namely moderation which tests the strength of the influence of relations between independent variables on non-independent variables, and second, only modification of the first type. Which was then clarified by Sharma et al. (1981) in the form of a matrix that facilitates the understanding of researchers who are interested in testing the role of moderating variables, as shown in Figure 2.

**Figure 2.** Typology of Moderation Variable Specifications

	Related to Criterion and/or Predictor	Not Related to Criterion and Predictor
No Inter- action With Predictor	1 Intervening, Exogenous, Antecedent, Suppressor, Predictor	2 Moderator (Homologizer)
Interaction With Predictor Variable	3 Moderator ("Quasi" Moderator)	4 Moderator ("Pure" Moderator)

Source: Sharma et al. (1981)

Figure 2 is a two-dimensional matrix. The first dimension is the classification of independent variables that interact with those that do not interact. The second dimension is interaction or not with independent variables and non-independent variables, which ultimately form four quadrants, where three quadrants fall into the classification of the moderating variable. As seen in quadrant 1, both the independent and non-free variables do not interact at all, so they are called various names which have been widely known as intervening, exogenous, antecedent, suppressor, or additional independent variables that depend on the characteristics of the variable. Moderation in quadrant 2 is a modification of the strength of the relationship called homologizer moderation, while moderation in variables 3 and 4 is a form of influencing the relationship between independent variables and non-independent variables, each of which is called apparent moderation and pure moderation.

### **Mathematical Model of Moderating Variables**

To determine which model has a moderating function, Sharma et al. (1981) suggest doing four stages. The first is to determine the significant interactions between hypothesized variables that have a moderating function ( $\eta_1$ ), by treating them as independent variables (predictors with MRA procedures as in equations 6, 7 and 8. If the interaction results are significant, proceed to the second step. If not significant, go straight to step three.

$\eta_2 = \alpha + \beta_{21}\xi_1 + \epsilon$	(6)
$\eta_2 = \alpha + \beta_{21}\xi_1 + \beta_{12}\eta_1 + \epsilon$	(7)
$\eta_2 = \alpha + \beta_{21}\xi_1 + \beta_{12}\eta_1 + \beta_{22}(\xi_1 \times \eta_1) + \epsilon$	(8)

The second step, determines whether the  $\eta_1$  variable is related to the criterion variable. If it is related, then  $\eta_1$  is a quasi moderation variable (quadrant 3, in Figure 2). If not related, then  $\eta_1$  is a pure moderating variable, two forms of this moderator by Sharma et al. (1981) is called the classic moderation validation model. The equations for pseudo moderation functions are as follows:

$\eta_2 = \alpha + \beta_{21}\xi_1 + (\beta_{21} \times \eta_1) + \beta_{21}\xi_1\eta_1 + \epsilon$	□ □ □
For pure moderation equations are as follows:	
$\eta_2 = \alpha + \beta_{21}\xi_1 + \beta_{21}\xi_1\eta_1 + \epsilon$	□ □ □ □

The third step determines whether the moderating variable ( $Z$ ) is related to other independent variables or non-independent variables. If related, then the moderating variable ( $\eta_1$ ) is not a moderating variable, but it is more accurately called exogenous, predictor, intervening antecedent, or suppressor variable. If the variable that is assumed to have a moderating function ( $\eta_1$ ) is not related, both with the independent variable and the non-independent variable, then proceed to the fourth stage.

The fourth step, for samples in the sample sub-group as a basis for hypothesizing the moderating variable. Group division can be done by median, quartile or other division methods. After the sample is divided into two or more, do a significance test based on valid predictive values between sub-groups. If there are significant differences between groups,  $\eta_1$  is the type of homologizer variable that is determined based on the sample error rate. If there is no significant difference, it means that  $\eta_1$  can be concluded not to have a moderating function. For mathematical equations homologizer moderation is as follows:

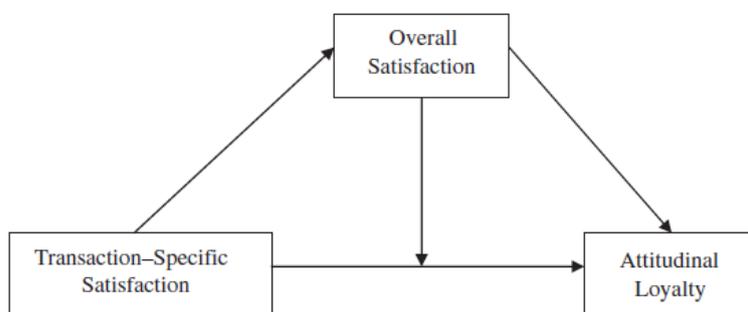
$\eta_2 = \alpha + \beta_{21}\xi_1 + \eta_1\epsilon$	□ □ □ □
--	---------

One weakness in the analysis of Sharma et al. (1981) is the illustration given is not consistent with the statement that to determine whether a moderating variable is based on differences in group sample errors. But the explanation emphasizes the value of the coefficient of determination and the value of F. So that should be given additional illustrations to better understand the operational level. Research conducted by Homburg & Giering (2001) might help our understanding of homologizer moderation variables.

### *Combination of Mediation and Moderation in Testing Structural Models*

We often find marketing research that tests empirical models that combine mediation and moderation variables simultaneously. As an example of research conducted by Bodet (2008) who tried to prove empirically the overall satisfaction variable whether it has a mediation function or moderation between transaction-specific satisfaction and attitudinal loyalty (Figure 3). A result, for the function of mediation, overall satisfaction plays a significant role in the service industry it studies. To strengthen the previous theory that overall satisfaction has a mediation function. While for the function of moderation, overall satisfaction does not prove to be a significant role. However, some critical notes can be given to the tests carried out by Bodet (2008), first in terms of measurement theory that supports the three tested variables which are not representative. Second, it is unclear which mathematical model is used, because it uses the MRA requirements with normality tests and classic assumptions and more stringent measurement scale requirements. Actually, the model developed is more a behavioral approach by using a more appropriate application, SEM. So Bodet's opinion (2008), that the significance of the mediation role of overall satisfaction is not significant because of the differences in the industries studied.

**Figure 3.** Partial Mediation Model and Moderation Overall Satisfaction



Source: Bodet (2008)

Research from Zanoli, Naspetti, Janssen, & Hamm (2015) is a better reference because the mathematical model and scale of measurement variables used are not debatable. They tested

the mediation and moderation model of food-choice based on consumer trust on the logo of the product purchased. Consumers see the logo as a source of trust (willingness to pay). While for a significant moderating role is the type of store compared to the location of the store in the relationship between price, logo, and willingness to pay.

Research by Zanolli et al. (2015) strengthens the proposition of a combination of mediation-moderation models that can be done simultaneously as proposed by Berry and Kenny (1986). Testing this model has the first stage, the manipulation effect of the independent variable and moderation on the final variable (outcome), second is the effect of the mediating variable on the final variable (outcome) and the three mediating-moderating effects on the final variable (outcome). Thus there are three hypotheses tested, especially the first and second hypotheses the results are significant so that the third hypothesis with the role of mediation-moderation can also be tested. Thus, the combination model of mediation and moderation has two variations, namely separated mediation-moderation (Zanolli et al. 2015) and complementary mediation-moderation (Bodet. 2008).

### **Methodology for Classification Mediation and Moderation Models in Marketing Research**

In line with the purpose of this study, the method used is the literature review. The literature review method used refers to Bharti, Agrawal, & Sharma (2015) and Mishra & Kumar (2016). Data sources are based on scientific papers in the form of journals published from data sources such as Emerald, Springer, Proquest, Elsevier, Gale, and others. Journals taken in the category of research papers or original papers from 2009 to 2018 are full text and speak English. Information taken is limited to marketing management studies and marketing research. The keywords used in the search are marketing, marketing research, mediation, moderation, and mediation-moderation modeling.

From the search obtained 233 journals, which were then scanned for titles, abstracts, and keys to sort out relevant articles. The results were obtained 157 articles which were considered relevant to the purpose of this study for further study with the following details: Emerald, 50 (31.85%); Springer, 32 (20.38%); Proquest, 30 (19.11%); Elsevier, 30 (19.11%); Gale, 8 (5.10%) and others, 7 (4.46%) as seen in Table 1.

**Table 1:** Data Source Search Results (2009 -2018)

No.	Source	Searching Result		Review Result	
		Total	%	Total	%
1.	Emerald	61	26,18	50	31,85
2.	Springer	43	18,45	32	20,38
3.	Proquest	65	27,90	30	19,11

4.	Elsevier	41	17,60	30	19,11
5.	Gale	12	5,15	8	5,10
6.	Others	11	4,72	7	4,46
	Total	233	100	157	100

After the sorting process is done, it is continued by using a thematic content analysis approach that refers to the research procedure used by Gildberg & Hounsgaard (2010), Bharti et al. (2015) and Mishra & Kumar (2016). The thematic content analysis approach produces 3 classifications with 6 sub-classifications for mediating variables (Table 2), 3 sub-classifications for moderating variables (Table 3) and 3 sub-classifications for mediation-moderation modeling (Table 4) in marketing research.

**Table 2:** Mediation Classification in Marketing Research: 2009 – 2018

No	Author	Mediation					Comple
		Mult i	Ful l	Partia l	Competitiv e	Complemente r	
1	(Davis-Sramek, Droge, Mentzer, & Myers, 2009)			V			
2	(Taylor, 2012)			V			
3.	(Tsiotsou & Vlachopoulou, 2011)			V			
4.	(Ramendra Singh, Rakesh Kumar Singh, 2018)			V			
5.	(Boshoff, 2014); (Kwon, Pyun & Choi, 2014)		V				
6.	(Tan & Sousa, 2015)						V
7	(Kolomiiets, Dens, & Pelsmacker, 2000)		V				
8	(Kadić-Maglajlić, Arslanagić-Kalajdžić, Micevski, Michaelidou, & Nemkova, 2017)		V				
9	(Moore & Lee, 2012)	V					
10	(Picón, Castro, & Roldán, 2014).	V					
11	(Clark, Toms, & Green,	V					

No	Author	Mediation					Comple
		Mult i	Ful l	Partia l	Competitiv e	Complemente r	
	(Lournois, 2014) (2016)						
12	(Dumitrescu, Shaw, & Shultz, 2018); (Raman, Kim, & Crick, 2018)	V					
13	(Moore & Lee, 2012)				V		
14	(Mahmoud et al., 2016)				V		
15	(McClure, 2018)				V		
16	(Darke, Ashworth, & Main, 2009)					V	
17	(Giovanis, Athanasopoulou, & Tsoukatos, 2015)					V	

Table 2 presents that there are quite a number of mediating variables used, but the most multi mediation. This means that these six types of variables are considered to provide benefits in building theory and solving marketing problems over the past ten years. Even if it only appears once, mediation testing using control variables is also carried out, especially studies that look at the relationship with financial performance (Tan & Sousa, 2015).

**Table 3:** Moderation Classification in Marketing Research: 2009 – 2018

No	Author	Moderation		
		Homologizer	Quasi	Pure
1	(Miyazaki, Stanaland & Lwin, 2009)	V		
2	(Payne & Wansink, 2011)	V		
3	(Badrinarayanan, Becerra, Kim, & Madhavaram, 2012).			
4	(Zhou, Thøgersen, Ruan, & Huang, 2013)	V		
5	(Pons, Giroux, Mourali, & Zins, 2015)	V		
6	(Swoboda, Puchert, & Morschett, 2016); Kim	V		
7	(Worm, Bharadwaj, Ulaga, & Reinartz, 2017).	V		
8	Akrouf & Nagy; Nowariak et al.; Alcántara- (Alcántara-pilar, Barrio-garcía, & Rodríguez-lópez, 2018)	V		
9	(Ahearne, Haumann, Kraus, & Wieseke, 2013).		V	
10	(Goetz, 2014)		V	

No	Author	Moderation		
		Homologizer	Quasi	Pure
11	(Cho, Keum, & Shah, 2015).		V	
12	(Mo, Yu, Ruyter, & Chen, 2017).		V	
13	(Narteh, 2018); (Cheng, Chan, & Leung, 2018).		V	
14	(Cui & Wu, 2016).			V

Table 3. For the classification of moderation variables in three types, namely homologizer, quasi and pure, the dominant type is the homologizer moderation. This is easy to understand because for the quasi type demands more stringent measurement requirements, because it is an interaction between the independent variable and the variable that is thought to have a moderating function. And of course not separated from the side of the moderation proposition that was built.

**Table 4:** Mediation-Moderation Classification in Marketing Research: 2009 – 2018

No	Author	Mediation-Moderation		
		Separated	Complementer	Complex
1	(Pioch, Gerhard, Fernie, & Arnold, 2009); (Colwell, Hogarth-scott, & Jiang, 2009); (O’Sullivan, Abela, & Hutchinson, 2009); ( Nijssen & Herk, 2009)	V		
2	(Tangari, Garretson, Burton, & Kees, 2010)	V		
3	Pekovic & Rolland;;	V		
4	(Piercy, Cravens, & Lane, 2012); (Taylor, 2012); (Kronrod, Grinstein, & Wathieu, 2012) .	V		
5	(Ashraf & Merunka, 2013); (Weisstein, Monroe, & Kukar-Kinney, 2013)	V		
6	(Chang, Wong, & Fang, 2014); (Halkias & Kokkinaki, 2014);			
7	Celuch et al.; Mason & Moretti; Guevremont & Grohmann; Hoffman & ; Kettler; (Koschate-Fischer, Huber (née Stefan), & Hoyer, 2016); (Xie, Bagozzi, & Grønhaug, 2015); (Chen, Yen, Pornpripheet, & Widjaja, 2015); (Hung & Lin, 2015); (Wymer &	V		

	Drollinger, 2015); (Martin, Raj, & Javalgi, 2015); (Pons et al., 2015):			
8	(Farooq & Vij, 2017); (Lee, O’Cass, & Sok, 2017); (Yoo, 2017); (Yue, Liu, & Wei, 2017); (Hilken, de Ruyter, Chylinski, Mahr, & Keeling, 2017); (Ferreira, Brandão, & Bizarrias, 2017); (Akrouf & Nagy, 2018)	V		
9.	(Das, Agarwal, Malhotra, & Varshneya, 2018)	V		
9	(Castañeda, 2011)	V	V	
11	(Andrews & Allen, 2016)	V	V	
12	(Venkatesh & Goyal, 2010)l		V	
13	(Cheng, 2011)		V	
14	(Craig-Lees, Harris, & Maulana, 2013); (Voola, Casimir, Carlson, & Agnihotri, 2012)		V	
15	(Fu & Elliott, 2013); (Wang, Li, Ross, & Craighead, 2013).		V	
16	(Mishra, Dash, & Cyr, 2013); (Tsai, 2009)		V	
17	(Veloutsou, 2015) (Pai, Lai, Chiu, & Yang, 2013)		V	
18	(Sheikh, Shahzad, & Ishak, 2016); (Kim, 2016);		V	
19	(Rahman, Albaity, & Maruf, 2017); (Dadzie, Amponsah, Dadzie, & Winston, 2017); (Bridger & Wood, 2017)		V	
20	(Adjei, Noble, & Noble, 2010); (Mariadoss, Echambadi, Arnold, & Bindroo, 2010)		V	V
20	(Blocker, Flint, Myers, & Slater, 2011)l.		V	V
21	(Ernst, Hoyer, Krafft, & Krieger, 2011).	V		V
22	(Grappi, Romani, & Bagozzi, 2013); (Wong & Dioko, 2013)	V		V
23	(Memery, Angell, Megicks, &	V	V	V

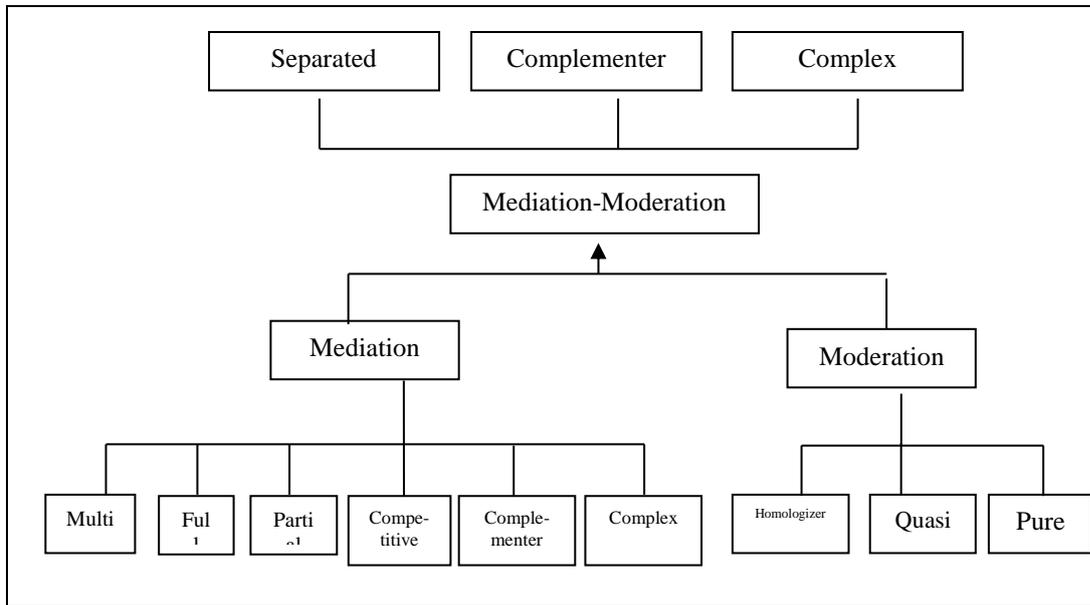
	Lindgreen, 2015)			
24	(Cui & Wu, 2016)	V		V
25	(Krush, Sohi, & Saini, 2015)	V		V
26	(Swoboda et al., 2016); (Cho et al., 2015)			V
27	(Auh, Menguc, Spyropoulou, & Wang, 2016); (Rubera, Chandrasekaran, & Ordanini, 2016)		V	V
28	(Worm et al., 2017)		V	V
29	(Angulo-ruiz, Donthu, Prior, & Rialp, 2018).	V		V
30	(Cheng et al., 2018).			V

The mediation-moderation classification produces three types, namely separated, complemter and complex. The type of separated mediation-moderation tests the function of mediating variables with simultaneous homologizer moderation. Similar to complementary mediation is testing the mediation model with quasi moderation simultaneously. Complex mediation-moderation in question is in addition to using separated or complemter forms also adding other variables such as control variables, so that mathematical modeling and hypothesis testing are no longer linear.

### Discussion and Managerial Implication

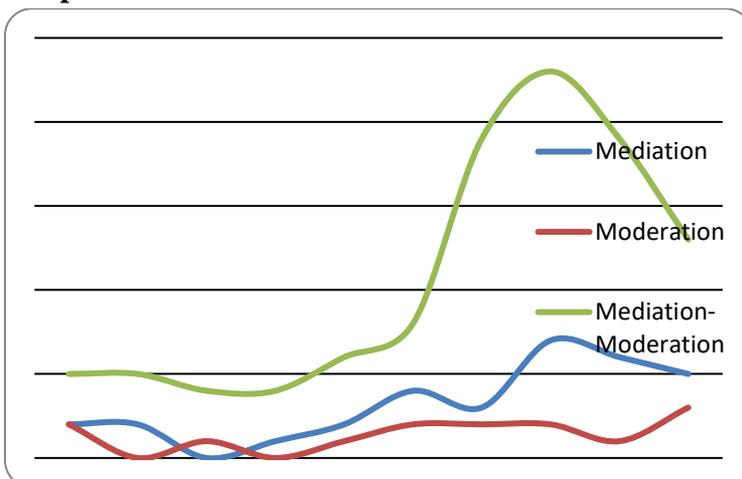
For mediation, the choice of multi, full and partial mediation is more widely used in various marketing research. There is an additional classification proposed by Zhao et al. (2010) about complementary mediation and competitive mediation, apparently limited use. For moderation, the results show that for the marketing sector that remains widely accepted are homologizer and quasi types (Table 3).

**Figure 3.** Reclassification of modeling mediations in marketing research



The results of the literature review with TCA (Thematic Content Analysis) are dominant testing, especially separated, a combination of partial mediation and homologizer moderation. While for mediation-moderation complementary is a combination of partial mediation with quasy or pure moderation. In both of these modeling combinations, it turns out that many marketing researchers are interested in adding control variables, even with content analysis combinations. So that diagrammatically the reclassification of modeling mediations in marketing research is presented in Figure 3.

**Graph 1.** Trends in Structural Models in Market Research: 2009-2018



In Graph 1 we can state that the interest of marketing researchers is to do combination testing mediation = moderation. A popular second choice is mediation testing. Even though the moderation test is singularly outnumbered, the research design used is more impressive.

Because in general, the moderation test uses more data collection techniques in the form of experiments.

For data analysis, marketing research is more dominant in behavioral studies, especially about perceptions that on a measurement scale including ordinal scales that use statistics that rely mostly on non-parametric statistics. While in Table 5, we see a lot of analysis of the data used are numerical scales such as MRA, OLS, Anova / Ancova, and Manova/Mancova. While data analysis accommodates more non-metric scales in SEM and PLS. Indeed MRA can be used in medical studies but requires that it be done using decomposition techniques (Wright, 1932).

**Table 5:** Mediation and Moderation Classification in Marketing Research: 2009 – 2018

Classification	Sub-classification	Total Mention
	MRA/OLS/ANOVA	53
	SEM/CFA	68
Data Analysis	ANCOVA/MANCOVA/MANOVA	22
	Bootstrapping	7
	PLS	24
	LISREL	15
	SPSS/PROCESS Macro	33
Application	SmartPLS/Other	6
	EQS	2
	Amos	19
	Not mention	82
	Consumer/Durable Goods	64
Scope of Marketing	Service	50
	Industrial	24
	Digital	17
	Experiment	42
Research Design	Survey	111
	Data <i>sekunder</i>	2

This "carelessness" can be tracked by identifying the assisted programs used, such as LISREL providing the transformation process for ordinal data into intervals, or Smart PLS which does not require strict assumptions regarding some basic assumptions such as in the MRA or Anova / Manova. The carelessness was seen by not mentioning the analysis tools used with the number reaching 82 articles. This should be taken into consideration with the increasingly complex modeling that is built and tested, of course, the clarity of the tools used is very important to be one component of the quality assessment of marketing research.



## **Conclusion**

With conceptual exposure about functions, the role of mediation and moderation variables can be said to have three patterns. First, a single mediation model with the classification of multi-mediation, full mediation, partial mediation, complementary mediation, competitive mediation, comp; ex mediation. Second, both single moderation models with classification homologizer moderation, quasi moderation, and pure moderation. Third, the combination model of mediation and moderation with separated mediation-moderation classification, complementary mediation-moderation, and complex mediation-moderation modeling.



## REFERENCES

- Adjei, M. T., Noble, S. M., & Noble, C. H. (2010). The influence of C2C communications in online brand communities on customer purchase behavior. *Journal of the Academy of Marketing Science*, 38(5), 634–653. <https://doi.org/10.1007/s11747-009-0178-5>
- Ahearne, M., Haumann, T., Kraus, F., & Wieseke, J. (2013). It's a matter of congruence: How interpersonal identification between sales managers and salespersons shapes sales success. *Journal of the Academy of Marketing Science*, 41(6), 625–648. <https://doi.org/10.1007/s11747-013-0333-x>
- Akrout, H., & Nagy, G. (2018). PT. *Information & Management*. <https://doi.org/10.1016/j.im.2018.04.009>
- Alcántara-pilar, J. M., Barrio-garcía, S. Del, & Rodríguez-lópez, M. E. (2018). Does language matter? A cross-national comparison of the moderating effect of language on website information-processing. *Journal of Business Research*, 88(March), 66–78. <https://doi.org/10.1016/j.jbusres.2018.03.011>
- Andrews, D., & Allen, A. M. (2016). Information Form and Level-of-Analysis As Moderators of the Influence of Information Diagnosticity on Consumer Choice Confidence and Purchase Readiness. *Academy of Marketing Studies Journal*. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=ent&AN=119849248&site=ehost-live>
- Angulo-ruiz, F., Donthu, N., Prior, D., & Rialp, J. (2018). How does marketing capability impact abnormal stock returns? The mediating role of growth. *Journal of Business Research*, 82(August 2017), 19–30. <https://doi.org/10.1016/j.jbusres.2017.08.020>
- Ashraf, R., & Merunka, D. (2013). The impact of customer-company identification on consumer reactions to new corporate initiatives The case of brand extensions, 31(5), 489–507. <https://doi.org/10.1108/MIP-04-2013-0065>
- Auh, S., Menguc, B., Spyropoulou, S., & Wang, F. (2016). Service employee burnout and engagement: the moderating role of power distance orientation. *Journal of the Academy of Marketing Science*, 44(6), 726–745. <https://doi.org/10.1007/s11747-015-0463-4>
- Badrinarayanan, V., Becerra, E. P., Kim, C. H., & Madhavaram, S. (2012). Transference and congruence effects on purchase intentions in online stores of multi-channel retailers: Initial evidence from the U.S. and South Korea. *Journal of the Academy of Marketing Science*, 40(4), 539–557. <https://doi.org/10.1007/s11747-010-0239-9>



- Bagozzi, R. P., & Yi, Y. (2012). Specification, evaluation, and interpretation of structural equation models. *Journal of the Academy of Marketing Science*, 40(1), 8–34. <https://doi.org/10.1007/s11747-011-0278-x>
- Baron, R. M., & Kenny, D. A. (1986). The Moderator-Mediator Variable Distinction in Social Psychological Research : Conceptual , Strategic , and Statistical Considerations. *Journal of Personality and Social Psychology*, 51(6), 1173–1182.
- Bharti, K., Agrawal, R., & Sharma, V. (2015). Value Co-Creation. *International Journal of Market Research*, 57(4), 571–603. <https://doi.org/10.2501/IJMR-2015-000>
- Blocker, C. P., Flint, D. J., Myers, M. B., & Slater, S. F. (2011). Proactive customer orientation and its role for creating customer value in global markets. *Journal of the Academy of Marketing Science*, 39(2), 216–233. <https://doi.org/10.1007/s11747-010-0202-9>
- Bodet, G. (2008). Customer satisfaction and loyalty in service: Two concepts, four constructs, several relationships. *Journal of Retailing and Consumer Services*, 15(3), 156–162. <https://doi.org/10.1016/j.jretconser.2007.11.004>
- Boshoff, C. (2014). The Influence Of ‘Buffering’ Variables On Clients’ Willingness To Engage In Retribution Behaviour After A Service Failure. *SAJEMS NS*, 17(3), 297–309.
- Bridger, E. K., & Wood, A. W. (2017). Gratitude mediates consumer responses to marketing communications, 51(1).
- Campbell, M. C., & Goodstein, R. C. (2014). The Moderating Effect of Perceived Risk on Consumers ’ Evaluations of Product Incongruity : Preference for the Norm. *Journal of Consumer Research*, 28(3), 439–449.
- Castañeda, J. A. (2011). Relationship Between Customer Satisfaction and Loyalty on the Internet. *Journal of Business and Psychology*, 26(3), 371–383.
- Chang, H. H., Wong, K. H., & Fang, P. W. (2014). The Effects of Customer Relationship Management Relational Information Processes on Customer-based Performance. *Decision Support Systems*. <https://doi.org/10.1016/j.dss.2014.06.010>
- Chen, J. V., Yen, D. C., Pornpriphet, W., & Widjaja, A. E. (2015). E-commerce web site loyalty : A cross cultural comparison, 1283–1299. <https://doi.org/10.1007/s10796-014-9499-0>
- Chen, S. (2012). Journal of Retailing and Consumer Services The customer satisfaction – loyalty relation in an interactive e-service setting : The mediators. *Journal of Retailing*



---

*and Consumer Services*, 19(2), 202–210.  
<https://doi.org/10.1016/j.jretconser.2012.01.001>

Cheng, C. C. (2011). The effects of market orientation on new service performance : the mediating role of innovation Dennis Krumwiede, *16*(1), 49–73.

Cheng, L. T. W., Chan, R. Y. K., & Leung, T. Y. (2018). Impact of perk expenditures and marketing expenditures on corporate performance in China : The moderating role of political connections. *Journal of Business Research*, 86(January), 83–95.  
<https://doi.org/10.1016/j.jbusres.2018.01.046>

Cho, J., Keum, H., & Shah, D. V. (2015). News Consumers, Opinion Leaders, and Citizen Consumers. *Journalism and Mass Communication Quarterly*, 92(1), 161–178.  
<https://doi.org/10.1177/1077699014554766>

Clark, J. W., Toms, L. C., & Green, K. W. (2014). Market-oriented sustainability: Moderating impact of stakeholder involvement. *Industrial Management and Data Systems*, 114(1), 21–36. <https://doi.org/10.1108/IMDS-04-2013-0194>

Colwell, S., Hogarth-scott, S., & Jiang, D. (2009). Effects of organizational and serviceperson orientation on customer loyalty, 47(10), 1489–1513.  
<https://doi.org/10.1108/00251740911004655>

Craig-Lees, M. A., Harris, J., & Maulana, A. E. (2013). Websites and revisiting behaviour: An investigation of the relative role of predictors. *Marketing Intelligence and Planning*, 31(3), 250–271. <https://doi.org/10.1108/02634501311324609>

Cui, A. S., & Wu, F. (2016). Utilizing customer knowledge in innovation: antecedents and impact of customer involvement on new product performance. *Journal of the Academy of Marketing Science*, 44(4), 516–538. <https://doi.org/10.1007/s11747-015-0433-x>

Dadzie, K. Q., Amponsah, D. K., Dadzie, C. A., & Winston, E. M. (2017). How Firms Implement Marketing Strategies In Emerging Markets : An Empirical Assessment Of The 4a Marketing Mix Framework. *Journal OfMarketing Theory and Practice*, 25(3), 234–256. <https://doi.org/10.1080/10696679.2017.1311220>

Darke, P. R., Ashworth, L., & Main, K. J. (2009). Great expectations and broken promises: Misleading claims, product failure, expectancy disconfirmation and consumer distrust. *Journal of the Academy of Marketing Science*, 38(3), 347–362.  
<https://doi.org/10.1007/s11747-009-0168-7>

Das, G., Agarwal, J., Malhotra, N. K., & Varshneya, G. (2018). Does brand experience translate into brand commitment?: A mediated- moderation model of brand passion and



- perceived brand ethicality. *Journal of Business Research*, (May), 0–1. <https://doi.org/10.1016/j.jbusres.2018.05.026>
- Davis-Sramek, B., Droge, C., Mentzer, J. T., & Myers, M. B. (2009). Creating commitment and loyalty behavior among retailers: What are the roles of service quality and satisfaction? *Journal of the Academy of Marketing Science*, 37(4), 440–454. <https://doi.org/10.1007/s11747-009-0148-y>
- Dumitrescu, C., Shaw, R., & Shultz, J. (2018). Examining consumers' responses to corporate social responsibility addressing childhood obesity: The mediating role of attributional, 88 (March), 132–140. <https://doi.org/10.1016/j.jbusres.2018.03.006>
- Ernst, H., Hoyer, W. D., Krafft, M., & Krieger, K. (2011). Customer relationship management and company performance—the mediating role of new product performance. *Journal of the Academy of Marketing Science*, 39(2), 290–306. <https://doi.org/10.1007/s11747-010-0194-5>
- F. A. Gildberg, B. E. L., & Hounsgaard, L. (2010). Forensic Psychiatric nursing: a literature review and thematic analysis of staff – patient interaction. *Journal of Psychiatric and Mental Health Nursing*, 17, 359–368. <https://doi.org/10.1111/j.1365-2850.2009.01533.x>
- Farooq, R., & Vij, S. (2017). Moderating Variables in Business Research, XIV(4), 34–55.
- Ferreira, M. C. O., Brandão, M. M., & Bizarrias, F. S. (2017). Understanding consumer's responses to negative emotions related to crowding on satisfaction and impulse purchase in retail: the mediating role of coping. *Revista de Administração*, 52, 431–442. <https://doi.org/10.1016/j.rausp.2017.08.005>
- Fu, F. Q., & Elliott, M. T. (2013). The Moderating Effect of Perceived Product Innovativeness and Product Knowledge on New Product Adoption: An Integrated Model. *The Journal of Marketing Theory and Practice*, 21(3), 257–272. <https://doi.org/10.2753/MTP1069-6679210302>
- Giovanis, A., Athanasopoulou, P., & Tsoukatos, E. (2015). *The role of service fairness in the service quality – relationship quality – customer loyalty chain: An empirical study. Journal of Service Theory and Practice* (Vol. 25). <https://doi.org/10.1108/JSTP-11-2013-0263>
- Goetz, D. M. (2014). Extending downward is not always bad: Parent brand evaluations after brand extension to higher and lower price and quality levels. *Journal of Brand Management*, 21(4), 303–324. <https://doi.org/10.1057/bm.2014.9>



- Grappi, S., Romani, S., & Bagozzi, R. P. (2013). The effects of company offshoring strategies on consumer responses. *Journal of the Academy of Marketing Science*, 41(6), 683–704. <https://doi.org/10.1007/s11747-013-0340-y>
- Gujarati, D. N. (2004). *Basic Econometrics* (fourth edi). New York: McGraw–Hill Book Companies. <https://doi.org/10.1126/science.1186874>
- Gunzler, D., Chen, T., Wu, P., & Zhang, H. (2013). Introduction to mediation analysis with structural equation modeling. • 390 • *Shanghai Archives of Psychiatry*, 25(6), 390–395. <https://doi.org/10.3969/j.issn.1002-0829.2013.06.009>
- Hair, J.F. Jr., R.E. Anderson, R. L. T. & W. C. B. (2009). *Multivariate Data Analysis* (7 Edition). New Jersey: Perason Prentice-Hall Int.
- Halkias, G., & Kokkinaki, F. (2014). The degree of ad-brand incongruity and the distinction between schema-driven and stimulus-driven attitudes. *Journal of Advertising*, 43(4), 397–409. <https://doi.org/10.1080/00913367.2014.891087>
- Herk, E. J. N. and H. van. (2009). Conjoining Relationship Consumers ’ Relationships International Marketing: Marketing Exploring Service Hester Nijssen and van Herk. *Journal of International Marketing*, 17(1), 91–115.
- Hilken, T., de Ruyter, K., Chylinski, M., Mahr, D., & Keeling, D. I. (2017). Augmenting the eye of the beholder: exploring the strategic potential of augmented reality to enhance online service experiences. *Journal of the Academy of Marketing Science*, 45(6), 884–905. <https://doi.org/10.1007/s11747-017-0541-x>
- Homburg, C., & Giering, A. (2001). Personal characteristics as moderators of the relationship between customer satisfaction and loyalty - an empirical analysis. *Psychology & Marketing*, 18(1), 43–66. [https://doi.org/10.1002/1520-6793\(200101\)18:1<43::AID-MAR3>3.0.CO;2-I](https://doi.org/10.1002/1520-6793(200101)18:1<43::AID-MAR3>3.0.CO;2-I)
- Hung, H., & Lin, T. (2015). Asia Paci fi c Management Review A moderated mediation model of consumers ’ role behaviors in brand communities. *Asia Pacific Management Review*. <https://doi.org/10.1016/j.apmr.2014.12.014>
- Hur, W. M., Kim, H., & Woo, J. (2014). How CSR Leads to Corporate Brand Equity: Mediating Mechanisms of Corporate Brand Credibility and Reputation. *Journal of Business Ethics*, 125(1), 75–86. <https://doi.org/10.1007/s10551-013-1910-0>
- Hyungil Harry Kwon, Do Young Pyun, & K. K. C. (2014). The mediating role of perceived value in two different price settings. *International Journal of Sports Marketing and Sponsorship*, 15(3), 27–39.



- Jöreskog, K. G., Olsson, U. H., & Wallentin, F. Y. (2016). *Multivariate Analysis with LISREL*. Basel, Switzerland: Springer International Publishing AG. <https://doi.org/10.1007/978-3-319-33153-9>
- Kadić-Maglajlić, S., Arslanagić-Kalajdžić, M., Micevski, M., Michaelidou, N., & Nemkova, E. (2017). Controversial Advert Perceptions in SNS Advertising: The Role of Ethical Judgement and Religious Commitment. *Journal of Business Ethics*, 141(2), 249–265. <https://doi.org/10.1007/s10551-015-2755-5>
- Kim, S. Y. (2016). Negative word of mouth intentions during self-service technology failures: The mediating role of regret. *Journal of Service Science Research*, 8(1), 41–55. <https://doi.org/10.1007/s12927-016-0002-y>
- Kolomiiets, A., Dens, N., & Pelsmacker, P. De. (2000). The Wrap Effect In Online Review Sets Revisited : How Perceived Usefulness Mediates The Effect On Intention. *Journal of Electronic Commerce Research*, 17(4), 280–289.
- Koschate-Fischer, N., Huber (née Stefan), I. V., & Hoyer, W. D. (2016). When will price increases associated with company donations to charity be perceived as fair? *Journal of the Academy of Marketing Science*, 44(5), 608–626. <https://doi.org/10.1007/s11747-015-0454-5>
- Kronrod, A., Grinstein, A., & Wathieu, L. (2012). Enjoy! Hedonic Consumption and Compliance with Assertive Messages. *Journal of Consumer Research*, 39(1), 51–61. <https://doi.org/10.1086/661933>
- Krush, M. T., Sohi, R. S., & Saini, A. (2015). Dispersion of marketing capabilities : impact on marketing ' s influence and business unit outcomes, 32–51. <https://doi.org/10.1007/s11747-014-0420-7>
- Kuhn, T. S. (1970). *The Structure of Scientific Revolutions* (Volumes I, Vol. Ii). Chicago: The University Of Chicago Press, Chicago.
- Lee, W. J. (Thomas), O’Cass, A., & Sok, P. (2017). Unpacking brand management superiority: Examining the interplay of brand management capability, brand orientation and formalisation. *European Journal of Marketing*, 51(1), 177–199. <https://doi.org/10.1108/EJM-09-2015-0698>
- Lournois, L. (2016). A Manager-Customer Empirical Investigation Of The Subjective Performance Of Proactive Market-Oriented Consumer Goods Companies: Testing A Double-Mediation Model. *The Journal of Applied Business Research*, 32(5), 1475–1495.



- Mahmoud, M. A., Blankson, C., Owusu-frimpong, N., Nwankwo, S., Tran, P., Mahmoud, M. A., ... Mahmoud, M. A. (2016). Market orientation , learning orientation and business performance The mediating role of innovation. *International Journal of Bank Marketing*, 34(5), 623–648. <https://doi.org/10.1108/IJBM-04-2015-0057>
- Mariadoss, B. J., Echambadi, R., Arnold, M. J., & Bindroo, V. (2010). An examination of the effects of perceived difficulty of manufacturing the extension product on brand extension attitudes. *Journal of the Academy of Marketing Science*, 38(6), 704–719. <https://doi.org/10.1007/s11747-010-0190-9>
- Martin, S. L., Raj, R., & Javalgi, G. (2015). Entrepreneurial orientation , marketing capabilities and performance : The Moderating role of Competitive Intensity on Latin American International New Ventures. *Journal of Business Research*. <https://doi.org/10.1016/j.jbusres.2015.10.149>
- McClure, R. (2018). The Influence Of Mediating Variables On Market Orientation During Organizat...: University of Liverpool Library, 22(1), 1–25. Retrieved from <https://eds-b-ebscohost-com.liverpool.idm.oclc.org/eds/pdfviewer/pdfviewer?vid=0&sid=38863494-6689-4e3a-9a80-de7cde650c76%40sessionmgr120>
- Memery, J., Angell, R., Megicks, P., & Lindgreen, A. (2015). Unpicking motives to purchase locally-produced food: Analysis of direct and moderation effects. *European Journal of Marketing*, 49(7–8), 1207–1233. <https://doi.org/10.1108/EJM-02-2014-0075>
- Mishra, A., Dash, S. B., & Cyr, D. (2013). Linking user experience and consumer-based brand equity: the moderating role of. *Journal of Product & Brand Management*, 24(4/5), 333–348. <https://doi.org/10.1108/JPBM-12-2013-0459>
- Mishra, S. K., & Kumar, K. K. (2016). Minimizing the cost of emotional dissonance at work: a multi-sample analysis. *Management Decision*, 54(4), 778–795. <https://doi.org/10.1108/MD-06-2015-0222>
- Miyazaki, A. D., Stanaland, A. J. S., & Lwin, M. O. (2009). Self-Regulatory Safeguards And The Online Privacy Of Preteen ... *Journal of Advertising*, 38(4).
- Mo, C., Yu, T., Ruyter, K. De, & Chen, C. (2017). Unfolding the impacts of transaction-specific investments : Moderation by out-of-the-channel-loop perceptions and achievement orientations, (October). <https://doi.org/10.1016/j.indmarman.2017.10.002>
- Moore, D. J., & Lee, S. P. (2012). How advertising influences consumption impulses: The role of visualization, anticipated emotions, taste anticipation, and hedonic rationalization. *Journal of Advertising*. <https://doi.org/10.2753/JOA0091-3367410307>



- Narteh, B. (2018). Brand equity and financial performance The moderating role of brand likeability. *Marketing Intelligence & Planning*, 36(3), 381–395. <https://doi.org/10.1108/MIP-05-2017-0098>
- O’Sullivan, D., Abela, A. V., & Hutchinson, M. (2009). Marketing performance measurement and firm performance: Evidence from the European high-technology sector. *European Journal of Marketing*, 43(5–6), 843–862. <https://doi.org/10.1108/03090560910947070>
- Pai, D. C., Lai, C. S., Chiu, C. J., & Yang, C. F. (2013). Corporate Social Responsibility and Brand Advocacy in Business-to-Business Market: The Mediated Moderating Effect of Attribution. *Journal of Business Ethics*, 126(4), 685–696. <https://doi.org/10.1007/s10551-013-1979-5>
- Payne, C. R., & Wansink, B. (2011). Quantitative Approaches to Consumer Field Research. *The Journal of Marketing Theory and Practice*, 19(4), 377–390. <https://doi.org/10.2753/MTP1069-6679190402>
- Picón, A., Castro, I., & Roldán, J. L. (2014). The relationship between satisfaction and loyalty: A mediator analysis ☆. *Journal of Business Research*, 67(5), 746–751. <https://doi.org/10.1016/j.jbusres.2013.11.038>
- Piercy, N. F., Cravens, D. W., & Lane, N. (2012). Sales Manager Behavior-Based Control and Salesperson Performance: The effects of Manager Control Competencies and Organizational Citizenship Behavior. *The Journal of Marketing Theory and Practice*, 20(1), 7–22. <https://doi.org/10.2753/MTP1069-6679200101>
- Pioch, E., Gerhard, U., Fernie, J., & Arnold, S. J. (2009). Consumer acceptance and market success: Wal-Mart in the UK and Germany. *International Journal of Retail & Distribution Management*, 37(3), 205–225. <https://doi.org/10.1108/09590550910941490>
- Pons, F., Giroux, M., Mourali, M., & Zins, M. (2015). The relationship between density perceptions and satisfaction in the retail setting: Mediation and moderation effects. *Journal of Business Research*. <https://doi.org/10.1016/j.jbusres.2015.09.005>
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879–891. <https://doi.org/10.3758/BRM.40.3.879>
- Rahman, M., Albaity, M., & Maruf, B. (2017). The Role of Religiosity on the Relationship Between Materialism and Fashion Clothing Consumption Among Malaysian Generation Y Consumers. *Social Indicators Research*, 132(2), 757–783.



<https://doi.org/10.1007/s11205-016-1310-9>

Raman, R., Kim, T., & Crick, D. (2018). Exploitation Strategy and Performance of Contract Manufacturing Exporters : The Mediating Roles of Exploration Strategy and Marketing Capability. *Journal of International Management*, (January), 0–1. <https://doi.org/10.1016/j.intman.2018.02.001>

Ramendra Singh, Rakesh Kumar Singh, D. B. (2018). Emotion regulation – natural reward strategy linkage and its impact on sales performance: the mediating impact of salesmanship skills. *Journal of Business & Industrial Marketing*, 32(5), . 652-663. <https://doi.org/10.1108/IBIM-10-2016-0236>

Richard; Dadan Umar Daihani; & Robert Kristaung. (2018). The International Journal Of Business & Management The Effect of Strategic Orientation and Dynamic Capability in Turbulent Environment on Commercial Bank Performance in Abstract: *The International Journal Of Business & Management*, 6(1), 101–111.

Rubera, G., Chandrasekaran, D., & Ordanini, A. (2016). Open innovation, product portfolio innovativeness and firm performance: the dual role of new product development capabilities. *Journal of the Academy of Marketing Science*, 44(2), 166–184. <https://doi.org/10.1007/s11747-014-0423-4>

Salkind, N. J. (2012). *Exploring Resrearch*. Boston: Pearson Education, Inc. Retrieved from [http://dinus.ac.id/repository/docs/ajar/Neil\\_J.\\_Salkind\\_2012\\_-\\_Exploring\\_Research\\_.pdf](http://dinus.ac.id/repository/docs/ajar/Neil_J._Salkind_2012_-_Exploring_Research_.pdf)

Sheikh, A. A., Shahzad, A., & Ishak, A. K. (2016). The effects of e-marketing uses, market orientation, relative advantage and trading partners pressure on the performance of textile business in Pakistan: A mediated-moderation analysis. *International Journal of Economic Perspectives*, 10(4), 562–580.

Subhash Sharma, R. M. D. and O. G.-A. (1981). Identification and Analysis of Moderator Variables. *Journal of Marketing Research*, 18(3), 291–300.

Swoboda, B., Puchert, C., & Morschett, D. (2016). Explaining the differing effects of corporate reputation across nations: a multilevel analysis. *Journal of the Academy of Marketing Science*, 44(4), 454–473. <https://doi.org/10.1007/s11747-015-0457-2>

Tan, Q., & Sousa, C. M. P. (2015). Leveraging marketing capabilities into competitive advantage and export. *International Marketing Review*, 32(1), 78–102. <https://doi.org/10.1108/IMR-12-2013-0279>

Tangari, Garretson, Burton, & Kees. (2010). *The\_moderating\_influence\_of\_co.PDF*.



- Taylor, S. A. (2012). Implicit attitudes and digital piracy, 6(4), 281–297. <https://doi.org/10.1108/17505931211282409>
- Tsai, S. (2009). Modeling strategic management for cause-related marketing. *Marketing Intelligence & Planning*, 27(5), 649–665. <https://doi.org/10.1108/02634500910977872>
- Tsiotsou, R. H., & Vlachopoulou, M. (2011). Understanding the effects of market orientation and e-marketing on service performance. *Marketing Intelligence & Planning*, 29(2), 141–155. <https://doi.org/10.1108/02634501111117593>
- Valerie A. Taylor, D. H. & P. J. H. (n.d.). Consumer Responses to Christian Religious Symbols in Advertising. *The Journal of Advertising*, 39(2), 79–92.
- Veloutsou, C. (2015). Brand evaluation, satisfaction and trust as predictors of brand loyalty: the mediator-moderator effect of brand relationships. *Journal of Consumer Marketing*, 32(6), 405–421. <https://doi.org/10.1108/JCM-02-2014-0878>
- Venkatesh, V., & Goyal, S. (2010). Quarterly Expectation Disconfirmation and Technology Adoption: Polynomial Modeling and Response Surface Analysis. *MIS Quarterly*, 34(2), 281–303.
- Voola, R., Casimir, G., Carlson, J., & Agnihotri, M. A. (2012). The effects of market orientation, technological opportunism, and ... *Australian Marketing Journal*, 20(May), 136–146.
- Wang, Q., Li, J. J., Ross, W. T., & Craighead, C. W. (2013). The interplay of drivers and deterrents of opportunism in buyer-supplier relationships. *Journal of the Academy of Marketing Science*, 41(1), 111–131. <https://doi.org/10.1007/s11747-012-0310-9>
- Weisstein, F. L., Monroe, K. B., & Kukar-Kinney, M. (2013). Effects of price framing on consumers' perceptions of online dynamic pricing practices. *Journal of the Academy of Marketing Science*, 41(5), 501–514. <https://doi.org/10.1007/s11747-013-0330-0>
- Wong, I. A., & Dioko, L. D. A. N. (2013). Understanding the mediated moderating role of customer expectations in the customer satisfaction model: The case of casinos. *Tourism Management*, 36, 188–199. <https://doi.org/10.1016/j.tourman.2012.10.010>
- Worm, S., Bharadwaj, S. G., Ulaga, W., & Reinartz, W. J. (2017). When and why do customer solutions pay off in business markets? *Journal of the Academy of Marketing Science*, 45(4), 490–512. <https://doi.org/10.1007/s11747-017-0529-6>
- Wright, S. (1934). Institute of Mathematical Statistics. *The Annals of Mathematical Statistics*, 5(3), 161–215.



- Wymer, W., & Drollinger, T. (2015). Charity Appeals Using Celebrity Endorsers : Celebrity Attributes Most Predictive of Audience Donation. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 2694–2717. <https://doi.org/10.1007/s11266-014-9546-y>
- Xie, C., Bagozzi, R. P., & Grønhaug, K. (2015). The role of moral emotions and individual differences in consumer responses to corporate green and non-green actions. *Journal of the Academy of Marketing Science*, 43(3), 333–356. <https://doi.org/10.1007/s11747-014-0394-5>
- Yoo, J. (2017). Customer power and frontline employee voice behavior Mediating roles of psychological empowerment. *European Journal of Marketing*, 51(1), 238–256. <https://doi.org/10.1108/EJM-07-2015-0477>
- Yue, L., Liu, Y., & Wei, X. (2017). Influence of online product presentation on consumers ' trust in organic food. *British Food Journal*, 119(12), 2724–2739. <https://doi.org/10.1108/BFJ-09-2016-0421>
- Zanoli, R., Naspetti, S., Janssen, M., & Hamm, U. (2015). Mediation and moderation in food-choice models: a study on the effects of consumer trust in logo on choice. *NJAS - Wageningen Journal of Life Sciences*, 72, 41–48. <https://doi.org/10.1016/j.njas.2015.01.001>
- Zhao, X., Lynch, J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and Truths about Mediation Analysis. *Journal of Consumer Research*, 37(2), 197–206. <https://doi.org/10.1086/651257>
- Zhou, Y., Thøgersen, J., Ruan, Y., & Huang, G. (2013). The moderating role of human values in planned behavior: The case of Chinese consumers' intention to buy organic food. *Journal of Consumer Marketing*, 30(4), 335–344. <https://doi.org/10.1108/JCM-02-2013-0482>