

# Meta-Analysis for Relationship between Market Orientation & Businesses Performance

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## ABSTRACT

Market orientation is often delineated as a main perform during which a company strives to make superior worth for his or her clients by that specialize in customer wants and long-run profit. Some literature explored that a higher degree of market-oriented expertise improves performance; other studies found a mix or non - significant results. We've applied meta-analysis procedure to search out the right result for those queries that arise because of distinction within the result of studies explored. In a meta-analysis, we tend to use the sample correlation derived from previous studies.

In this paper, we have applied meta-analytic procedure projected by Davar (2004). A positive relationship identified between market orientation and businesses performance. It absolutely was found that a variety of business conjointly has an effect on the degree of influence of market orientation on businesses performances.

We tend to conjointly realize that the scale for measuring the effectiveness of market orientation on businesses performance i.e. profitability.

**Keywords :** Market Orientation, Businesses Performance, Meta-Analysis, MARKOR; MKTOR Service; Manufacturing etc.

## INTRODUCTION

(Narver and Slater 1990) mentioned that if the firm is able to raise its level of market orientation will also improve its performance in the market. From a historical point of view, market orientation is defined as a combination of three factors: Competitor's Orientation, Customer's Orientation, and Inter-functional coordination. Therefore, we can say that market orientation is a culture aimed to maintain every time a high level of firm performance by implementing strategies needed to gain customer value, to face challenges from competitors, and to coordinate the activities between different departments of the organization.

## Concept and Measurement of Market Orientation:

Narver and Slater (1990) defined market orientation is the combination of three principal components namely: Customer Orientation, Competitor Orientation and Inter-functional coordination.

- Customer Orientation: To understand a firm's target consumers to provide pricing on-going basis
- Competitor Orientation: To understand short and long-run capabilities and methods of every competitor's
- Inter-functional Coordination: To have optimum utilization of company resources to provide competitive prices for target customers

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Jaworski and Kohli (1993) stated that there exists three principal components of market orientation are:

- Developing a marketing intelligence system to assist in understanding current and future customer needs.
- Dissemination of information across the different departments.
- To measure organizational responsiveness towards it.

**Responsiveness can expand again two parts:**

- Responsive Design using marketing intelligence to develop plans, and
- Response Implementation plan execution.

**Important:** The better the match between these three dimensions, the smaller the resources waste leading to performing activities more efficiently (Sandvik and Sandvik-2000). (Howburg and Pflesser, 2000) conceptualized that market-oriented organizational culture is based on four distinct but interrelated components including:

- Organization shared basic values supporting market orientation;
- Organization norms for market orientation;
- Perceptible artifacts of market orientation;
- Market-oriented behaviour.

John Dawes (2000) combined both Narver & Slater (1990) and Kohli & Jaworski (1993) theories. Dawes points out that market orientation consists of three aspects such as Customer's Orientation (Customer Analysis and Customer Responsiveness), Competitor Orientation, and lastly Market Information Sharing. So, market orientation includes three antecedents as:

- Customer Orientation: Customer's Analysis and replying to customers.
- Competitor Orientation: Competitor's Analysis and reaction against competitors.
- Inter-department Collaboration: Gathering, Spread, and Using of information.

## CONCEPT OF RELATIONSHIP BETWEEN MARKET ORIENTATION AND BUSINESS

### Performance

Narver and Slater (1990) conclude that there is a positive relationship between Market orientation and businesses performance. According to Smith and Pitter (2007)-"Better performance will be achieved by the market-oriented organization". John Dawes (2000) concludes that there exists a positive relationship between market orientation and businesses performance. Muhammad Masroor Alam also defined that market orientation is an important determinant of business success. Kohli and Jaworski (1993) have found a significant relationship between market orientation and businesses performance. Moorman and Rust (1999) argued that more the marketing functionality develops knowledge and skills sets related to managing three customers' connections, more it will contribute towards firm performance.

**H1:** There exists a positive relationship between market orientation and businesses performance.

### Meta-Analysis

Meta-analytic evidence can be used to assess different comprehensive models that evaluate the implementation of market orientation strategies and mediate its impact on businesses performance (Brown and Peterson, 1993). Glass (1976) defines it as the statistical analysis on information collected from different studies for the purpose to integrate findings. Hence, Meta-analysis is a powerful tool for establishing empirical generalization in the marketing area (Farley et.al., 1995). Meta-analysis is required on those findings that are conceptually comparable and can be configured in statistically equivalent form (Lipsey and Wilson-2001).

### Meta-Analytic Studies

Paul D. Ellis (2006) used 58 studies in his meta-analysis. He calculated the mean correlation from the studies. In his study multiple performance effects were reported in a single study, a single mean

effect was calculated. He also used the Lipsey and Wilson (2001) procedures. He concludes that correlation between market orientation and businesses performance are significantly stronger in the USA ( $r = 0.36$ ) than elsewhere. (Western Europe ( $r = 0.25$ ), Eastern Europe ( $r = 0.20$ ), Asia ( $r = 0.26$ ), Australia ( $r = 0.24$ )). He also found that Kohli et al., (1993) scale returned significantly higher effect sizes ( $r = 0.32$ ) than those inspired by Narver and Slater's (1990) ( $r = 0.25$ ). In his study, one important result came out that market orientation is a significantly stronger correlation with subjective performance ( $r = 0.27$ ) than objective performance ( $r = 0.22$ ).

Ahmet H. Kirca, Satish Jayachandran and William O. Bearden (2005) conducted a meta-analysis to integrate findings of 114 studies. That meta-analysis showed that market orientation is positively associated with businesses performance<sup>®</sup> = 0.46). For meta-analysis, they first prepared a coding form that specified the information that was to be extracted from each study, corrected effects obtained from each study for measurement error by dividing the correlation coefficient by the product of the square root of the reliabilities of the two constructs. Absence of the reliability they used, means reliability.

Valter Afonso Vieira (2010) conducted a Brazilian meta-analysis aggregating a sample size of 4,537 in 27 papers. The findings suggest that the relationship between market orientation and businesses performance is positive and strong ( $r = 0.39$ ). He also selected the correlation coefficient as the primary effect size metric. In his study, effect sizes are obtained through a range of statistical data (e.g. student's t-test, f ratio with a d.f. in the numerator, chi-square) by means of the formulas given by Hunter and Schmidt (2004).

Cynthia Rodriguez Cano, Francois A. Carrillat and Fernando Jaramillo (2004) used 52 studies in their meta-analysis and found that there exists a positive and consistent relationship between market orientation and businesses performance. The authors consider disattenuated mean effect size the best estimator of the relationship between market orientation and businesses performance, as prescribed by Lipsey and Wilson (2001).

## Potential Moderators

### Measurement Moderators

Researchers used mainly two market orientation measures in their research. "MARKOR" scale developed by Kohli, Jaworski and Kumar (1993) and the "MKTOR" scale developed by Narver and Slater (1990) are two basic scales to measure market orientation. Research indicates that although both scales are theoretically consistent in general but Mark A. Farrell and Edward Oczkowski (1997) found a difference between these two measures. In previous research papers when referring to the attenuated effect size MARKOR has a lower reliability compared to MKTOR. MARKOR scale includes only information generation, information dissemination and responsiveness it as to customer needs without considering competitors.

H2: The relationship between market orientation and businesses performance will be stronger when market orientation is measured using the MKTOR scale rather than the MARKOR scale.

### Contextual Moderators

The continued shift from producing to service extends the analysis scope to measure the connection between market orientation and businesses performance (Pitt, Caruana and Berton-1996; Van Egeren and O'connor-1998). In a commentary article of Grey and Hooley (2002), indicates that there's equivocal proof on the weakening impact of business type (service and manufacturing) on the connection between market orientation and businesses performance.

H3: The relationship between market orientation and businesses performance will be stronger for service compared to manufacturing organization.

## METHODOLOGY USED

Numerous marketing related parameters have been meta-analysed in different literature. In this study, Davar (2004) method will be used to conclude correct results. The market orientation relationship with businesses performance has been measured through sample correlations. Around 40 studies are used for meta-analysis (Annexure-A).

## FINDINGS AND DISCUSSION

In Meta-analysis, we have used Meta-analytic framework given by Davar (2004). The comparative study of measurement corrected and measurement uncorrected correlations have been shown in Table 1 and a comparative study of moderator variables given in Table 2 and Table 3.

### Mean Correlation

We have calculated the mean correlation given by previous studies. According to these studies, the

mean correlation<sup>®</sup> is 0.35. After correcting the measurement error, the common correlation ( $p$ ) is 0.426. Thus, we can say that there is a moderate and positive correlation between market orientation and businesses performance.

### Estimation of True Variance

After the correction of observed correlation for measurement error, the true variance rises to 0.022 from 0.007

**Table-1: Meta-Analysis of Sample Correlation**

	<b>Sample Correlations Uncorrected For Measurement Error</b>	<b>Sample Correlation Corrected For Measurement Error</b>
Mean Correlation (Non-Weighted)	0.35	0.426
Observed Variance	0.26	0.38
Sampling Error Variance	0.019	0.016
True Variance	0.007	0.022

*Sources: Authors Compilation*

This difference shows that Measurement error can influence the effectiveness of market orientation on businesses performance. Therefore, it is necessary to calculate measurement error with the help of reliability estimates for computation true variance. Sampling error variance and observed variance is very important for the calculation of true variance. If we do not correct the measurement error, it increases the sampling error variance. We can see the difference in sampling error in Table 1. Observed variance also is higher in corrected sample correlation that uncorrected sample correlation. (See in Table 1). Therefore it is necessary to correct the sample correlation given in previous studies with the help of reliability estimates before calculating observed variance suggested by Davar (2004).

### Moderator Analysis

The study analyses two main moderator variables i.e. measurement moderator of market orientation (MKTOR vs. MARKOR) and type of industry (manufacturing vs. services). The results are shown in Table-2 and Table-3 given by meta-analytic study. According to results given in Table 2, we can say that after correcting the sample correlation for measurement error the mean correlation( $p$ ) in case of MKTOR(0.45) is greater than MARKOR ( $p = 0.42$ ). The difference in sampling error variance in both scales is also very small (0.01).The true variance is higher in MKTOR ( $\sigma^2p = 0.016$ ) than the MARKOR ( $\sigma^2p = -0.002$ ). Therefore, we can say that MKTOR scale is more effective for calculation of market orientation.

**Table-2: Measurement Moderators Analysis**

<b>MKTOR</b> Scale k = 15		<b>MARKOR</b> Scale k = 21	
Sample Correlations Corrected for Measurement Error	Sample Correlations Uncorrected for Measurement Error	Sample Correlations Corrected for Measurement Error	Sample Correlations Uncorrected for Measurement Error
$p = \frac{\sum r_i}{k} = 0.45$	$r = 0.37$	$p = 0.42$	$r = 0.35$
$\sigma_r^2 = \frac{\sum (r_i - p)^2}{k} = 0.058$	0.037	$\sigma_r^2 = \frac{\sum (r_i - p)^2}{k} = 0.030$	0.022
$\sigma_e^2 = 0.042$	0.049	$\sigma_e^2 = 0.032$	0.037
$\sigma^2 p = \hat{\sigma}_r^2 - \hat{\sigma}_e^2 = 0.016$	-0.012	$\sigma^2 p = \hat{\sigma}_r^2 - \hat{\sigma}_e^2 = -0.002$	-0.015

Sources: Authors Compilation

**Table 3: Contextual Moderators**

<b>Service Industry</b> k = 13		<b>Manufacturing Industry</b> k = 16	
Sample Correlations Corrected for Measurement Error	Sample Correlations Uncorrected for Measurement Error	Sample Correlations Corrected for Measurement Error	Sample Correlations Uncorrected for Measurement Error
$p = \frac{\sum r_i}{k} = 0.43$	$r = 0.35$	$p = \frac{\sum r_i}{k} = 0.44$	$r = 0.36$
$\sigma_r^2 = \frac{\sum (r_i - p)^2}{k} = 0.041$	0.027	$\sigma_r^2 = \frac{\sum (r_i - p)^2}{k} = 0.039$	0.027
$\sigma_e^2 = 0.051$	0.059	$\sigma_e^2 = 0.041$	0.047
$\sigma^2 p = \hat{\sigma}_r^2 - \hat{\sigma}_e^2 = -0.01$	-0.032	$\sigma^2 p = \hat{\sigma}_r^2 - \hat{\sigma}_e^2 = -0.002$	-0.02

Sources: Authors Compilation

From Table 3, we can see that the common correlation (p) is 0.44 in case of manufacturing is greater than the services industry (p = 0.43). Therefore, we can conclude that there is a small effect of type of industry on the degree of effectiveness of market orientation on businesses performance. The observed variance in both the cases are equal in uncorrected measurement error, but after correcting measurement error there is a small difference in both case (0.002). Both the true variance in negative form.

Therefore, we can say that there is little difference in the two industries for the calculation of the effect of market orientation on businesses performance.

### CONCLUSION

Finally, we can say that there is a positive relationship between market orientation and businesses performance. The Market orientation

moderators also affect the effectiveness of market orientation. This meta-analysis implies that after correcting the sample correlation for measurement error, we can conclude true and more effective results.

## SUGGESTIONS

Therefore, we are able to say that if the trader (service or manufacturer) will apply market orientation in their field, they're going to get higher performance (profit). This paper suggests that market orientation can have an effect on the business's performance in an exceedingly positive method. In the future, a meta-analysis could embrace the examination of discourse and method moderators. For example the character of the various relationships among studies conducted in several countries, environments with varied volatility levels, companies with varied sizes, the utilization of various respondents (e.g. selling vs. non-marketing). Meta-analysis isn't finished in itself, however, it acts as a guide to researchers of the future.

## IMPORTANT TERMS

Observed variance ( $sr^2$ ): A meta-analytic statistics which measures the extent the variation in the correlation coefficients across studies.

Sampling error variance ( $se^2$ ): It reflects the variation in sampling error in the measurement corrected correlation coefficients.

True variance ( $sp^2$ ): The observed variance net of the sampling error variance ( $sr^2 - se^2$ ) is termed as a meta-analytic statistic of true variance (see HSJ-1982).

Measurement error: It is the error in the measurement of variables. Generally, the measurement error arises because of the lack of construct validity and attenuates the magnitude of a sample correlation coefficient.

Industry: M = Manufacturing, S = Service, X = Mixed.

Market Orientation Scale: M = MARKOR, K = MKTOR, M = Mixed.

Performance Scale: O = Objective, S = Subjective, X = Mixed.

r = Reported r or r equivalent (e.g., transformed from t-value, F-value,  $X^2$ )

Corrected r = r obtained after correcting measurement error.

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## Annexure-A: Correlation between MO and Businesses Performance &amp; Reliabilities of Scales

S. No.	Name	Year	Country	Sample	Type of Industry	MO Scale	PERF Scale	R	Corrected R
						--	Type A		
1	Amirhossein & Rassol	2009	Iran	80	M	K 0.79	O 0.94	0.671	0.78
2	Aziz & Yassin	2010	Malaysia	102	M	X 0.73	S 0.81	0.176	0.23
3	Baker & Sinkula	1999	USA	411	X	M 0.889	S 0.79	0.29	0.35
4	Balakrishnan	1996	USA	139	M	K 0.83	S 0.81	0.15	0.18
5	Bhuiyan	1998	Saudi Arabia	115	M	M 0.87	S 0.83	0.188	0.22
6	Caruana, Pitt & Berthon	1999	U.K	131	S	M 0.78	S 0.79	0.143	0.18
7	Caruana, Ramaseshan & Ewing	1997	Australia	134	S	M 0.88	S 0.88	0.58	0.66
8	Caruana, Ramaseshan & Ewing	1998	Australia	84	S	M 0.81	S 0.81	0.52	0.64
9	Dawes	2000	Australia	93	X	M 0.857	X 0.81	0.198	0.24
10	Duncan	2000	USA	93	S	M 0.83	O 0.81	0.196	0.24
11	Gray, Matear & Matheson	2000	Australia	21	S	M 0.83	S 0.81	0.469	0.57
12	Han, Kim & Srivastava	1998	USA	134	S	K 0.803	X 0.75	0.14	0.18
13	Hooley et al.	2000	Poland	1396	X	K 0.96	X 0.80	0.169	0.19
14	Jaakkola & Vassinen	2009	Finland	1157	S	K 0.87	O 0.97	0.26	0.28
15	Jaworski & Kohli	1993	USA	136	X	M 0.783	S 0.83	0.5	0.62
16	Matsuno & Mentzer	2000	USA	364	M	M 0.84	O 0.81	0.326	0.4
17	Matsuno, Mentzer & Rentz	2000	USA	275	M	M 0.75	X 0.81	0.349	0.45
18	Moorman & Trust	1999	---	128	X	K 0.829	S 0.80	0.29	0.36
19	Moorman & Trust	1999	---	128	X	M 0.736	S 0.80	0.24	0.31
20	Mostaque Ahmed Zebal	2003	Australia	216	M	M 0.92	S 0.81	0.56	0.65
21	Muhammad Masroor Alam	---	Malaysia	53	M	K 0.82	S 0.72	0.68	0.88
22	Narver & Slater	1990	USA	371	X	K 0.881	S 0.81	0.345	0.41
23	Pelham	1997	USA	160	M	X 0.88	S 0.78	0.28	0.34
24	Pelham	1999	USA	229	M	X 0.82	S 0.84	0.339	0.41
25	Pelham	2000	USA	235	M	X 0.83	S 0.81	0.347	0.42
26	Pett & Wolff	---	Wichita KS	117	S	M 0.87	S 0.82	0.234	0.28
27	Pulendran, Speed & Widing	2000	Australia	105	M	M 0.87	S 0.81	0.568	0.68
28	Rajsek & Konic	2002	Ljubljana	194	S	K 0.71	S 0.81	0.56	0.74
29	Raju & Lonial	2002	USA	293	S	M 0.732	X 0.79	0.225	0.29
30	Raju, Lonial & Gupta	1995	USA	176	S	M 0.83	X 0.81	0.346	0.41
31	Sharma & Gupta	2008	India	52	S	M 0.83	S 0.81	0.597	0.73
32	Shoham & Rose	2001	Israel	101	M	M 0.827	O 0.82	0.3	0.36
33	Sin et al.	2000	China	210	X	K 0.858	S 0.87	0.135	0.16
34	Slater & Narver	1994	USA	107	M	K 0.80	S 0.67	0.282	0.38
35	Slater & Narver	2000	USA	53	X	K 0.77	S 0.81	0.362	0.46
36	Soehadi, Hart & Tagg	2001	Indonesia	159	M	M 0.76	S 0.73	0.19	0.26
37	Subramanian, Gopalkrishna	2001	India	162	X	K 0.95	S 0.81	0.454	0.51
38	Tejeddini, Trueman & Larsen	1996	U.K	238	M	K 0.92	S 0.88	0.349	0.39
39	Wood, Bhuiyan & Kiecker	2000	USA	237	S	M 0.89	S 0.72	0.303	0.38
40	Yassaman	2007	---	219	X	K 0.87	S 0.84	0.706	0.83

Sources: Authors Compilation