

MIDOCEAN UNIVERSITY

College of Management

The Impact of Employee Motivation on Employee Performance

Assignment 2

Chapter Three: Research Methodology

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Chapter Three: Research Methodology

Introduction

This chapter explains the methodology used to examine the relationship between employee motivation and employee performance. It converts the conceptual framework developed in Assignment 1 into a transparent empirical procedure. The chapter presents the operational definitions, research design, population and sampling technique, data-collection source, types of data, statistical procedures, ethical safeguards, and methodological limitations.

The project uses a published, anonymized employee survey dataset rather than claiming that a new survey was conducted by the student. The dataset was collected in Saudi Arabia and Yemen during June–July 2020 and was released with its questionnaire under an open license [8]. This approach makes the analysis reproducible and avoids fabricating participants or responses. Because the original study was cross-sectional and nonexperimental, the statistical findings are interpreted as association and prediction rather than definitive proof of causation.

Operational Definitions of the Research Variables

Operational definitions identify exactly how the study variables are measured. Employee motivation is the independent variable, and employee performance is the dependent variable. The published workbook labels the relevant item groups “Work motivation” and “Works performance.” Composite scores are arithmetic means after negatively phrased items are reverse-scored, so a higher value consistently represents more motivation or better performance.

Employee Motivation

Conceptually, work motivation consists of energetic forces inside and outside the individual that initiate work-related behaviour and determine its direction, intensity, and duration [2]. Motivation theory also distinguishes relatively autonomous reasons for working from controlled or externally regulated reasons [3].

Operationally, this project uses the six items classified as work motivation in the public dataset [8]. The items capture recent energy, vitality, positive affect, emotional stability, and the reverse of distress and exhaustion. Responses range from 1, “Strongly Disagree,” to 7, “Strongly Agree.” Workbook items Q27, Q28, and Q31 are negatively phrased and are transformed using $8 - x$. The motivation score is the mean of Q26–Q31 after this recoding.

Employee Performance

Employee performance refers to the extent to which a worker completes expected tasks effectively, on time, and at an acceptable level of quality. It is treated as an individual self-reported outcome rather than an audited organizational financial indicator. This distinction limits overgeneralization while keeping the measure relevant to management practice.

Operationally, performance is measured by five published items concerning timeliness, postponement of tasks, disappointment with one’s performance, and perceived contribution through high-quality work [8]. Responses range from 1, “Strongly Disagree,” to 4, “Strongly Agree.” Workbook items Q21, Q23, and Q24 are negatively phrased and are transformed using $5 - x$. The employee-performance score is the mean of Q21–Q25 after recoding.

Construct	Operational indicators	Items	Scale	Reverse-coded items	Composite
Employee Motivation	Energy, vitality, positive affect,	6	1–7	Q27, Q28, Q31	Mean of six scored items

	emotional stability, low distress, and low exhaustion				
Employee Performance	Task timeliness, reduced delay, satisfaction with performance, and quality contribution	5	1–4	Q21, Q23, Q24	Mean of five scored items

Research Design: The Research Onion

The research onion provides a logical structure for moving from philosophical assumptions to practical analytical techniques. The selected positions are summarized below.

Onion layer	Selected position	Justification
Research philosophy	Positivism	The study represents motivation and performance numerically and applies explicit statistical decision rules.
Approach to theory	Deductive	A positive hypothesis derived from motivation and performance literature is tested with observed survey data.
Methodological choice	Mono-method quantitative	The project analyzes numeric item responses and composite scores.
Research strategy	Secondary survey analysis	An existing anonymized questionnaire dataset is reanalyzed transparently.
Time horizon	Cross-sectional	Each employee was surveyed once during June–July 2020.
Techniques	Reproducible statistical analysis	Data screening, scoring, descriptive statistics, reliability, factorability, correlation, and regression are implemented consistently.

Research Philosophy and Deductive Approach

A positivist orientation is suitable because the research questions concern measurable levels, relationships, and predictive contribution. Although motivation and self-reported performance reflect personal experiences, standardized items permit the same scoring rules to be applied to every participant. The analysis therefore emphasizes transparent evidence rather than the researcher's subjective impressions.

The deductive approach begins with the hypothesis that higher employee motivation is associated with higher employee performance. Prior longitudinal meta-analytic evidence indicates that work motivation predicts later job performance even after earlier performance is controlled [1]. A broader meta-analysis also finds that intrinsic motivation and extrinsic incentives jointly predict performance [4]. The present dataset is used to evaluate whether its observed pattern is consistent with this expectation.

Quantitative Strategy and Time Horizon

A mono-method quantitative strategy is used because the source contains standardized numerical responses. The design enables frequencies, means, reliability estimates, correlations, and regression coefficients to be calculated. It does not provide interview narratives that explain why individual employees felt energized or performed well; such explanations are recommended for future qualitative or mixed-method research.

The time horizon is cross-sectional. Every respondent contributed one record during the original data-collection period. Cross-sectional evidence can establish covariation but cannot determine whether motivation preceded performance. References to “impact” in the title therefore describe the tested predictive model, while the conclusion preserves cautious, noncausal wording.

Research Population, Sampling Methods, and Technique

Target Population and Study Context

The source study focused on working adults in Saudi Arabia and Yemen. Participants represented multiple employment and educational backgrounds. For this project, the accessible analytical population is the set of employees whose complete, anonymized responses were retained in the published workbook. The context is important: the survey was conducted during the COVID-19 period, when stress, work arrangements, and labour-market conditions may have influenced motivation and performance.

Sampling Method

The original researchers used purposive and snowball sampling [8]. Purposive access was used to reach people who were employees and therefore relevant to the study. Snowball recruitment enabled initial contacts to share the survey with additional eligible participants. Both are non-probability techniques; therefore, individual selection probabilities were unknown and the sample should not be treated as nationally representative.

Sample Size and Retention

The source reports that 950 questionnaires were distributed and 307 usable responses remained after screening and cleaning. The present project analyzes all 307 published complete cases. This sample is sufficient for the specified descriptive, reliability, correlation, and one-predictor regression procedures, but sample adequacy does not remove selection bias.

Sampling feature	Value	Interpretation
Geographical setting	Saudi Arabia and Yemen	Results should be interpreted within the two-country and pandemic-period context.
Original technique	Purposive and snowball sampling	Efficient access to employees, but not a probability sample.
Questionnaires distributed	950	The starting recruitment volume reported by the source.
Usable published cases	307	All retained complete records are included in the reanalysis.
Unit of analysis	Individual employee	Composite scores represent each respondent’s motivation and self-reported performance.

Data Collection Method

Original Survey Administration

The data were originally obtained through a structured questionnaire. The source paper states that the survey was administered during June–July 2020 and that the final workbook contained anonymized responses from 307 employees [8]. The questionnaire included demographic background, feelings about work and COVID-19, performance, motivation, family commitment, job satisfaction, and psychological state of mind. Only the demographic fields and the two variable sections required for this project are analyzed.

Secondary-Data Retrieval

The present researcher downloaded two supplementary files linked to the open-access article: the Microsoft Excel workbook containing respondent-level data and the PDF questionnaire defining the item wording and response scales. The workbook includes three header rows: section names, item codes, and full question wording. These headers were checked against the questionnaire before scoring.

An important reproducibility detail is that the workbook's Q26–Q31 order differs from the numbering sequence in the printed questionnaire. For that reason, reverse-scoring decisions follow the full wording attached to each workbook column, not an assumed numerical sequence. This check prevents positive items from being accidentally reversed.

Data Integrity and Ethics

No names, telephone numbers, employee numbers, or exact workplace identifiers appear in the analysis file. The project does not attempt to identify participants or contact them. The dataset is used under the article's open-access terms, and the original source is cited in every assignment. Results are reported in aggregate.

Because the project uses previously collected anonymized data, it does not claim that the student obtained new consent or personally surveyed 307 employees. Academic integrity is preserved by distinguishing the original investigators' data collection from the student's secondary analysis. Any institutional requirement for ethics or instructor approval should still be followed before submission.

Step	Activity	Quality control
1	Retrieve source files	Use the supplementary workbook and questionnaire linked to the published article.
2	Verify structure	Match section labels, item codes, wording, and response ranges.
3	Select variables	Retain demographics, Q21–Q25, and Q26–Q31 only.
4	Convert to numeric	Treat nonnumeric values as missing and verify permitted ranges.
5	Reverse-score	Use item wording and scale-specific formulas rather than item-number assumptions.
6	Construct composites	Calculate respondent means only after all required items are scored consistently.
7	Analyze and report	Run a saved script, preserve outputs, and report limitations as well as significant findings.

Types of Data

The project uses secondary quantitative microdata and secondary academic literature. The microdata consist of participant-level questionnaire responses originally collected by Mgammal and Al-Matari [8]. The literature includes peer-reviewed theoretical reviews, meta-analyses, measurement research, and the data article itself.

Data type	Content	Source	Purpose
Secondary quantitative microdata	Demographics and item responses for 307 employees	Published Excel workbook	Describe the sample, build composites, and test the hypothesis
Secondary instrument documentation	Question wording, scale anchors, and construct sections	Published questionnaire PDF	Verify scoring and interpret the measures
Secondary literature	Theory, prior evidence, and measurement context	Peer-reviewed academic publications	Develop the framework and interpret results

Demographic categories such as gender, marital status, education, and employment status are nominal. Age and organizational tenure are ratio-level numeric variables. Individual Likert-type item responses are ordinal; the multi-item mean scores are treated as approximately continuous for descriptive and regression analysis, with their limitations acknowledged.

Statistical Analysis Procedures

All analyses are conducted through a saved, reproducible script. Tests use a two-tailed significance level of 0.05. The workflow moves from screening and scoring to sample description, measurement assessment, descriptive results, and hypothesis testing.

Data Screening and Coding

Workbook values are converted to numeric format and checked against their permitted ranges. The 307 published records contain complete values for the selected variables, so the main analysis uses complete cases without imputation. Motivation responses must fall from 1 to 7, and performance responses must fall from 1 to 4.

Negative motivation items Q27, Q28, and Q31 are recoded as $8 - x$. Negative performance items Q21, Q23, and Q24 are recoded as $5 - x$. The scored items are then averaged within each construct. This procedure makes high composite scores directionally consistent.

Sample Profile

Frequencies and percentages describe gender, marital status, level of education, and employment status. Means and sample standard deviations summarize age and organizational tenure. This profile identifies important sample concentrations and supports cautious evaluation of representativeness.

Validity and Reliability

Corrected item–total correlations evaluate whether each item is consistent with the remaining items in its scale. Factorability is assessed with the Kaiser–Meyer–Olkin measure and Bartlett’s test of sphericity. KMO values are interpreted cautiously, with approximately 0.60 or higher normally preferred; a significant Bartlett test indicates that the correlation matrix is not an identity matrix.

Cronbach's alpha estimates internal consistency for each composite. Values near or above 0.70 are commonly considered acceptable, but alpha depends on item count and dimensionality. A weak alpha is reported honestly rather than hidden. Where reliability is low, the hypothesis result is treated as tentative because measurement error can weaken or distort estimated relationships.

Descriptive Statistics and Research Questions

For both composites, the analysis reports sample size, mean, standard deviation, minimum, and maximum. RQ1 is answered by the motivation mean on its 1–7 scale, whose neutral midpoint is 4. RQ2 is answered by the performance mean on its 1–4 scale, whose midpoint is 2.5. Exact values are emphasized instead of applying arbitrary labels across scales with different ranges.

Correlation and Hypothesis Testing

Pearson's correlation coefficient assesses the direction and strength of the relationship between the two composites. A scatterplot is used to inspect whether a linear summary is reasonable and to identify extreme patterns. The principal hypothesis is then tested with simple ordinary least squares regression:

$$EP_i = \beta_0 + \beta_1 EM_i + \varepsilon_i$$

where EP_i is the employee-performance score for respondent i , EM_i is the employee-motivation score, β_0 is the intercept, β_1 is the unstandardized slope, and ε_i is the error term.

The regression report includes the intercept, unstandardized slope, standard error, standardized beta, t statistic, p value, 95% confidence interval, R^2 , adjusted R^2 , root mean squared error, and overall F statistic. H1 is supported when the motivation slope is positive and statistically significant at $p < 0.05$. Statistical significance is interpreted separately from practical importance; a small R^2 indicates limited explanatory power even when the p value is significant.

Purpose	Variables	Procedure	Output / decision
Describe participants	Demographics, age, tenure	Frequencies, percentages, means, SDs	Sample profile and concentration
Assess measurement quality	Q21–Q31 scored items	Item–total correlation, KMO, Bartlett, alpha	Factorability and internal consistency
Answer RQ1–RQ2	Motivation and performance composites	Mean, SD, range	Observed levels on original scales
Answer RQ3	Motivation with performance	Pearson correlation	Direction, magnitude, and p value
Test H1	Motivation predicting performance	Simple OLS regression	Positive slope with $p < 0.05$; report confidence interval and R^2

Methodological Limitations and Quality Controls

The main limitations are the cross-sectional design, non-probability sampling, self-report measurement, pandemic-period context, and the use of data from only two countries. The source's

motivation items emphasize energy and affect rather than the full multidimensional range of autonomous and controlled work motivation. The performance items are self-evaluations and do not replace supervisor ratings or objective productivity records.

The project addresses these boundaries through several controls. Full item wording is checked before recoding. The scoring and analysis script is saved for reproducibility. All 307 usable records are included, reducing selective case removal. Reliability and factorability are assessed before the regression is interpreted. Effect size is discussed alongside statistical significance. The report states the weak reliability of the performance measure and does not alter or omit inconvenient results.

Conclusion

This chapter presented a positivist, deductive, mono-method quantitative reanalysis of an open cross-sectional employee survey. The analytical sample consists of 307 anonymized employee records collected in Saudi Arabia and Yemen through purposive and snowball methods during June–July 2020. Motivation is measured with six seven-point items, while performance is measured with five four-point items. After wording-based reverse scoring, the study uses descriptive statistics, corrected item–total correlations, KMO, Bartlett’s test, Cronbach’s alpha, Pearson correlation, and simple regression. The methodology provides a transparent bridge from the research framework to the results in Assignment 3 while preserving the limits of secondary, self-report, cross-sectional data.

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motivation, job satisfaction, psychological state of mind and family commitment in two Middle East countries. *Data in Brief*, 34, 106661. <https://doi.org/10.1016/j.dib.2020.106661>

Appendix A: Questionnaire Coding Plan

Variable	Workbook codes	Coding	Composite rule
Employee Motivation	Q26–Q31	1–7; reverse Q27, Q28, Q31 as $8 - x$	Mean of all six scored items; higher = stronger motivation
Employee Performance	Q21–Q25	1–4; reverse Q21, Q23, Q24 as $5 - x$	Mean of all five scored items; higher = better performance

Appendix B: Reproducible Analysis Workflow

Order	Output	Required content
1	Data audit	Record count, selected columns, numeric conversion, and permitted ranges
2	Scored dataset	Reverse-coded items and respondent-level motivation and performance means
3	Sample profile	Counts, percentages, age mean/SD, and tenure mean/SD
4	Measurement table	Cronbach's alpha, corrected item–total correlations, KMO, and Bartlett's test
5	Descriptive table	N, mean, standard deviation, minimum, and maximum
6	Association and model	Pearson r, OLS coefficients, confidence interval, F test, R^2 , adjusted R^2 , and RMSE
7	Visual check	Scatterplot with fitted regression line and a caption identifying the open dataset