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# The Development and Validation of the Organisational Ethical Behaviour Questionnaire of Medical Representatives

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**Abstract**

Ethics has emerged as one of the major issues facing organizations. This focus is perhaps stimulated by an increase in publicity about unethical practices by organizations and their management. Although the literature has many studies on organisational ethical behaviour(Geeta, Pooja& Mishra, 2016), there is a lack of research on examining the factors influencing the organisational ethical behaviour by using qualitative study. The aim of this study was to develop and validate an instrument used to measurethe organisational ethical behaviour of medical representatives in Kerala.

To assess the reliability and validity of the instrument, a random sample of 198 medical representatives were selected and the questionnaire was given. On the responses collected, exploratory factor analysis was carried out to ensure the factorial validity of the instrument. Sample adequacy was validated using Kaiser-Meyer-Olkin test. A principle component analysis was applied to extract the factors. The internal consistency and reliability of the factors was assessed using Cronbach alpha.

The factorial validity was ensured by performing PCA were the factor loading co-efficient were greater than 0.4 and the cumulative percentage of the variance extracted was 78 percentage. The KMO test ensured the sample adequacy with the value of 0.657.The internal reliability of the questionnaire was reasonable with a Cronbach values greater than 0.75.

The study demonstrated that the newly developed instrument has a good level of properties measured as content and factorial validity, internal consistency and reliability.

**Keywords:**Scaledevelopment, Scalevalidation, Quantitative methods, Organisational ethical behaviour questionnaire, Medical representatives



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## 1. Introduction

Business ethics is a highly discussed and debated subject in today's corporate and business world, as well as in educational and academic circles (Brown, Trevino, & Harrison, 2005).Organizations that are inclined towards performing according to ethical standards, morals and values, have recognized the importance and significance that ethical procedures and policies are communicated and practiced throughout the entire organization, while at the same time becoming a priority for the administration of the organization (Brimmer, 2007). Organizational ethical behaviour concerns the moral values individuals practice based on an established standard in an organization (Bishop, 2013).The values and principles of an organization are embedded in its organizational ethical culture, which, as Huhtala, Tolvanen, Mauno, and Feldt (2014) note, improves organizational commitment, trust, and well-being. Mayer *et al.* (2011) proposed three key components of an ethical environment - ethical leadership, ethical practices, and an ethical climate.

Ethical behaviour in the marketplace is of critical importance to medical representatives, first line and second line managers in their pharmaceutical companies and it is a concern that reflects both human resources and economic issues. Ethics Research Center indicates that 90 percent of sales force feels that their organizations should do what is ethically and morally right and not just what is profitable to the organization (Verschoor, 2000). The perception of ethical issues in the pharmaceutical industry is largely negative and highlights the scrutiny placed on pharmaceutical companies. The most prominent issues reported are drug safety, pricing, data disclosure, importation, clinical study design, marketing restrictions, DTC advertising, animal testing, international market, developing countries, issues related to vaccines, growth of drug counterfeiting, the cost effectiveness of treatments, and in the last ten years the Pharmaceutical fraud (Valverde , 2012).

The previous research on ethical behaviour in the pharmaceutical industry has strongly indicated the importance of in-depth study in this field. Some of the recently established scales to evaluate ethics in the organisation are Ethical Evaluation Questionnaire


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(Toker,2017), Ethical sensitivity questionnaire (Muramatsu et al.,2019), Ethical Leadership Questionnaire (Langlois,2014), Ethical leadership at work questionnaire -ELW (Karianne,2011),The German Ethical Culture Scale - GECS (Tanner,2019). However, most of these scales were developed for evaluating the organisational ethics, there are very less published scales to measure the organisational ethical behaviour of the medical representatives in the Indian context. Therefore, a scale was developed to measure the organisational ethical behaviour of the medical representatives and its reliability and validity examined.

## 2. Methods

The initial pool of questionnaire items was created through a qualitative study (Suriyaprakash&Stephan , 2022). The study was conducted in the pharmaceutical companies in Kerala. The respondents were the sales managers of the pharmaceutical companies.The sales managers were interviewed because they could give holistic views on the ethical behaviour of the medical representatives. If the medical representatives were interviewed the responses would have been biased. A sample of 12 sales managers was utilized in the study. An organised questionnaire was administered to the respondents.Saturation is utilised in qualitative research as a norm for discontinuing data collection. In the interviews, when the researcher commence to hear the same comments repeatedly, data saturation is being reached. It is then time to halt collecting information. After interviewing 12 respondents the fresh data incline to be redundant of data already collected. Data from individual respondents was collected through purposive sampling method.

Semi-structured interview method was used in the study. The study was conducted during November 2019 to January 2020. Face to face and telephonic interviews with sales managersof 12 pharmaceutical companies were conducted. The time taken for each interview was more than one hour. The interviews were recorded utilizing a phone and important points were noted down. Self-developed questionnaire was utilized for qualitative data collection. The questionnaire comprised of 5 questions was designed and administered to all sales managers in the pharmaceutical companies by the researcher. The aim of the questionnaire was to investigate the dominant factors that influence the medical representatives organisational ethical behaviour. The questions in the questionnaire were made short and clear in order to ensure that it takes the respondents not more than 30 minutes to answer and therefore encourage participation.


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The responses were documented utilizing the voice recorder and written notes. The responses gathered were scrutinized utilizing ThematicAnalysis.It is a technique utilized for identifying, analyzing and reporting patterns (themes) within the data (Braun & Clarke, 2006). However, it also often goes further than this, and interprets various aspects of the research topic (Boyatzis, 1998).The following six stages of thematic analysis were conducted (Braun and Clarke, 2006): familiarization of data, generate initial codes, search for themes, review themes, define and name the themes and produce the report. While the six phases are reported in a linear fashion, an iterative approach was favored to enhance the richness and depth of the findings.

Table 1 shows all the preliminary themes that were identified in the extract, along with the codes associated with them. All the codes fit into five main themes.

**Table 1: Codes and Themes**

| Codes | Common Themes |
|---|---|
| Motivating the medical representatives. | Leadership ethics |
| Giving medical representatives additional responsibilities and challenges. | |
| Open and caring relationship with the medical representatives. | |
| Manager is a good coordinator. | |
| Permissive leadership. | |
| Lack of caring relationship with the manager. | |
| Ethical influence of manager on his team members. | |
| Leadershipintentionally promoting unethical practices. | |
| Hidden permission from the manager to engage in unethical practice. | |
| Doctor's request for sponsoring family trips. | Doctor'sethics |
| Doctor's expectation of expensive gifts. | |
| Active participation of the doctor in the unethical practice by the reps. | |
| Immediate termination for ethics violation. | Organisational ethical culture |
| Lack of awareness about ethics. | |
| Clarity of ethical norms. | |
| Existence of organizational ethical policies. | |
| Education on ethics. | |
| Promotional policies leading to unethical | |


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| | |
|---|---|
| practices. | |
| Implementation of ethical policies. | |
| Ethics as a hindrance for their performance. | |
| Sustainability of unethical behaviour. | |
| Engaged employees need not be fully ethical. | |
| Medical representatives' participation in framing ethical policies. | |
| Lack of trust in medical representatives. | |
| Unrealistic target fixing. | Organisational ethical practices |
| Engaged employees violates ethics for achieving target. | |
| Target pressure. | |
| Medical representatives should have easy access to the benefits. | |
| Lack of organizational interest in personal development of the employees. | |
| Competence building. | |
| Hiring employees who don't have required qualification | |
| Medical representatives lack of product knowledge | Personal ethics |
| Attitude of the medical representatives. | |
| Inability to perform. | |
| Perceived negative image of the job. | |
| Privileges given to the family. | |
| False reporting. | |
| Manipulating tracking apps. | |
| Misuse of samples. | |
| Generating fake bills. | |
| Bribing doctor's, stockiest and the staffs ofthe stockiest. | |

*2.1 Validation of the questionnaire*

The questions in the questionnaire was framed based on the above codes and their respective themes. Face and content validity of the 41 items were examined by an expert panel, which consisted of two faculty members, two sales managers and two medical representatives. Thirty -five of the 42 items were evaluated as 'easy to understand'; however, two items were noted as 'difficult to understand'. Therefore, we revised the wording of these two items. In addition, one item was deleted for redundancy; finally, the expert panel approved 41 questionnaire items. Responses to each questionnaire item were recorded on a 5-point Likert type scale


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**Table 2 : A sample of few items in the questionnaire corresponding to each theme**

| Themes | Items |
|---|---|
| Leadership ethics | I'm motivated by my manager. |
| | My manager influences my ethical conduct. |
| | I have an open and caring relationship with the manager. |
| Doctors' ethics | Doctors asks for favours like family trips. |
| | Doctors engage in unethical practises along with medical representatives. |
| | Doctors expect expensive gifts from the company. |
| Organisational ethical culture | My organisation terminates employees immediately on ethics violation. |
| | There is a lack of awareness about work ethics in our organisation. |
| | Proper organisational ethical policies exist in our organisation. |
| Organisational ethical practises | The sales targets set are unrealistic. |
| | Personal development of an employee is a main goal of my organisation |
| | I have easy access to employee benefits in the organisation. |
| Personal ethics | I have good knowledge of our products |
| | I have not misused the samples provided by my organisation. |
| | Employees generate false reports in my organisation. |

## 3. Data Collection and Evaluation of the Instrument

To assess reliability and validity of the instrument, data were collected from a random sample of 198 medical representatives. The participants were selected using purposive sampling. Exploratory factor analysis (EFA) was carried out to determine factorial validity of the instrument. Prior to extraction of factors, Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was checked to evaluate the fitness of the data for factor analysis. Initially, Principal component analysis (PCA) with Varimax rotation was used to extract factors based on multiple criteria, including Eigenvalue >1, the Scree test, factor loading coefficient >0.4 and the cumulative percent of variance extracted.

The internal consistency reliability of each factorially derived scale was assessed by calculating Cronbach's alpha. PCA and Cronbach's alpha calculation were carried out in Statistical Package for Social Sciences (SPSS) version 23.0


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## 4. Results

### *4.1 Participant characteristics*

The following table (number) shows the personal details of the respondents.

**Table 3:Personal details of the respondents.**

| | | Frequency | Percent | Cumulative Percent |
|---|---|---|---|---|
| Gender | Male | 198 | 100 | 100 |
| | | | | |
| Educational Qualification | UG | 156 | 78.8 | 78.8 |
| | PG | 31 | 15.7 | 94.4 |
| | B-Pharm / M. Pharm | 11 | 5.6 | 100.0 |
| | Total | 198 | 100.0 | |
| | | | | |
| Age | <=30 | 66 | 33.3 | 33.3 |
| | 30 - 40 | 103 | 52.0 | 85.4 |
| | >40 | 29 | 14.6 | 100.0 |
| | Total | 198 | 100.0 | |
| | | | | |
| Experience | <=5 | 47 | 23.7 | 23.7 |
| | 5 - 10 | 52 | 26.3 | 50.0 |
| | 10 - 15 | 57 | 28.8 | 78.8 |
| | >=15years | 42 | 21.2 | 100.0 |
| | Total | 198 | 100.0 | |
| | | | | |
| Income | 7500 - 27500 | 47 | 23.7 | 23.7 |
| | 27500 - 47500 | 66 | 33.3 | 57.1 |
| | 47500 - 67500 | 49 | 24.7 | 81.8 |
| | >=67500 | 36 | 18.2 | 100.0 |
| | Total | 198 | 100.0 | |
| | | | | |
| Target | <1 cr | 42 | 21.2 | 21.2 |
| | 1-2cr | 35 | 17.7 | 38.9 |
| | 2-3 cr | 94 | 47.5 | 86.4 |
| | >3 cr | 27 | 13.6 | 100.0 |
| | Total | 198 | 100.0 | |

From the table 2, it is found that all the respondents were male. There were 33. 3 percent of the respondents who were below 30 years of age, 52 percent of the respondents were 30 – 40 years of age and 29 percent of the respondents were above 40 years of age.

Among the respondents, 23.7 percent had less than five years of experience, 26.3 percent had 5– 10 years of experience, 28.8 percent had 10-15 years of experience and 21.2% had more


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than 15 years of experience. 23.7% were earning between Rs.7500 - Rs.27500, 33.3% were earning between Rs.27500 - Rs.47500, 24.7% were earning between Rs.47500 - 67500 and 18.2% were earning above Rs.67500.

21.2 percent of the respondents said that they were set a target less than 1crore rupees, 17.7 percent had 1-2 crore as target, 47.5 percent had 2-3 crore as target and 13.6 percent had more than 3 crores as target.

*4.2 Factorial validity*

All items of the instrument designed to investigate determinants of Organisational Ethical Behaviour were subjected to PCA. Prior to performing PCA, the suitability of data for factor analysis was assessed. Inspection of the correlation matrix showed the presence of many coefficients that are all significant at 1% level of confidence.

**Table 4: Factorial validity**

| Dimension | Statistics | Leadership ethics | Doctor ethics | Organizational Ethical culture | Organizational Ethical Practice | Personal Ethics |
|---|---|---|---|---|---|---|
| Leadership ethics | Pearson Correlation | 1 | .044 | .190** | .112 | .060 |
| | Sig. (2-tailed) | | 0542 | .007 | .116 | .401 |
| | N | 198 | 198 | 198 | 198 | 198 |
| Doctor ethics | Pearson Correlation | .044 | 1 | .0178* | .370** | .272** |
| | Sig. (2-tailed) | .542 | | .012 | .000 | .000 |
| | N | 198 | 198 | 198 | 198 | 198 |
| Organizational Ethical culture | Pearson Correlation | .190** | .178* | 1 | .438** | .402** |
| | Sig. (2-tailed) | .007 | .012 | | .000 | .000 |
| | N | 198 | 198 | 198 | 198 | 198 |
| Organizational Ethical Practice | Pearson Correlation | .112 | .370** | .438** | 1 | .393** |
| | Sig. (2-tailed) | .116 | .000 | .000 | | .000 |
| | N | 198 | 198 | 198 | 198 | 198 |
| Personal Ethics | Pearson Correlation | .060 | .272** | .402** | .393** | 1 |
| | Sig. (2-tailed) | .401 | .000 | .000 | .000 | |
| | N | 198 | 198 | 198 | 198 | 198 |

*significant at 1% level of significance
**significant at 5% level of significance


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The KMO measures of sampling adequacy value was 0.657, exceeding the recommended value of 0.6 [47] and Bartlett's test of sphericity reached statistical significance, supporting the factorability of the correlation matrix.

**Table 5 :KMO and Bartlett's Test**

| | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .657 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 3680.156 |
| | df | 820 |
| | Sig. | .000 |

The communalites table below shows the contribution of each item to the factors extracted. And it is evident that almost all the values are above 0.6 recommended level, which means that from each question 60% information has been extracted to identify the factors.

**Table 6: Communalities**

| | Initial | Extraction |
|---|---|---|
| s1_q1 | 1.000 | .678 |
| s1_q2 | 1.000 | .738 |
| s1_q3 | 1.000 | .750 |
| s1_q4 | 1.000 | .686 |
| s1_q5 | 1.000 | .760 |
| s1_q6 | 1.000 | .755 |
| s1_q7 | 1.000 | .726 |
| s1_q8 | 1.000 | .709 |
| s1_q9 | 1.000 | .693 |
| s1_q10 | 1.000 | .732 |
| s1_q11 | 1.000 | .648 |
| s1_q12 | 1.000 | .729 |
| s1_q13 | 1.000 | .689 |
| s1_q14 | 1.000 | .666 |
| s1_q15 | 1.000 | .740 |
| s1_q16 | 1.000 | .701 |
| s1_q17 | 1.000 | .712 |
| s1_q18 | 1.000 | .685 |
| s1_q19 | 1.000 | .691 |
| s1_q20 | 1.000 | .700 |
| s1_q21 | 1.000 | .695 |
| s1_q22 | 1.000 | .785 |
| s1_q23 | 1.000 | .660 |


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| | | |
|---|---|---|
| s1_q24 | 1.000 | .738 |
| s1_q25 | 1.000 | .693 |
| s1_q26 | 1.000 | .717 |
| s1_q27 | 1.000 | .646 |
| s1_q28 | 1.000 | .579 |
| s1_q29 | 1.000 | .794 |
| s1_q30 | 1.000 | .715 |
| s1_q31 | 1.000 | .591 |
| s1_q32 | 1.000 | .723 |
| s1_q33 | 1.000 | .783 |
| s1_q34 | 1.000 | .754 |
| s1_q35 | 1.000 | .768 |
| s1_q36 | 1.000 | .736 |
| s1_q37 | 1.000 | .645 |
| s1_q38 | 1.000 | .594 |
| s1_q39 | 1.000 | .627 |
| s1_q40 | 1.000 | .774 |
| s1_q41 | 1.000 | .714 |

PCA with Varimax rotation demonstrated the presence of five components with Eigenvalues exceeding one, explaining 27%, 18%, 14%, 11%, and 8% of the variance, respectively. An inspection of the Scree plot also revealed a clear break after the 5th component. The following table presents the final component loadings for the retained factors. Thus, the final PCA with Varimax rotation regrouped the initially developed items under the five broad domains.


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**Table 7: Principal component analysis**

| | | Component | | | | |
|---|---|---|---|---|---|---|
| **Common Themes** | **Codes** | 1 | 2 | 3 | 4 | 5 |
| Leadership ethics | Motivating the medical representatives. | **.878** | .075 | -.061 | -.086 | -.031 |
| | Giving medical representatives additional responsibilities and challenges. | **.787** | -.174 | .066 | .025 | .151 |
| | Open and caring relationship with the medical representatives. | **.765** | .282 | -.297 | .274 | .121 |
| | Manager is a good coordinator. | **.650** | -.010 | .182 | -.074 | .016 |
| | Permissive leadership. | **.618** | .013 | -.048 | .182 | .267 |
| | Lack of caring relationship with the manager. | **.573** | .052 | -.107 | .367 | .256 |
| | Ethical influence of manager on his team members. | **.549** | .266 | .230 | .412 | -.131 |
| | Leadershipintentionally promoting unethical practices. | **.531** | .220 | .237 | -.097 | -.138 |
| | Hidden permission from the manager to engage in unethical practice. | **.514** | .150 | -.034 | .170 | .170 |
| Doctor'sethics | Doctor's request for sponsoring family trips. | .474 | **.652** | .278 | .084 | -.233 |
| | Doctor's expectation of expensive gifts. | .436 | **.583** | -.264 | .359 | -.034 |
| | Active participation of the doctor in the unethical practice by the reps. | .414 | **.540** | -.012 | -.384 | .309 |
| Organisational ethical culture | Immediate termination for ethics violation. | .352 | .341 | **.076** | .187 | -.191 |
| | Lack of awareness about ethics. | .313 | .193 | **.792** | -.169 | .059 |
| | Clarity of ethical norms. | .083 | .755 | **.767** | .140 | .028 |
| | Existence of organizational ethical policies. | .169 | .471 | **.727** | -.112 | .032 |
| | Education on ethics. | .218 | .466 | **.605** | -.194 | .091 |
| | Promotional policies leading to unethical practices. | -.182 | .456 | **.706** | .371 | .251 |
| | Implementation of ethical policies. | -.109 | .439 | **.661** | .080 | .101 |
| | Ethics as a hindrance for their performance. | .305 | .429 | **.617** | -.105 | .083 |
| | Sustainability of unethical behaviour. | .140 | .350 | **.601** | -.253 | .073 |
| | Engaged employees need not be fully ethical. | .121 | -.160 | **.507** | .027 | -.040 |
| | Medical representatives' participation in framing ethical policies. | -.077 | -.005 | **.497** | -.111 | .224 |
| Organisational ethical practices | Lack of trust in medical representatives. | -.101 | -.006 | .029 | **.827** | .339 |
| | Unrealistic target fixing. | .132 | -.107 | -.082 | **.795** | .073 |
| | Engaged employees violates ethics for achieving target. | -.353 | .012 | -.063 | **.717** | -.130 |
| | Target pressure. | .216 | .240 | -.056 | **.676** | -.112 |
| | Medical representatives should have easy access to the benefits. | .086 | .252 | -.009 | **.608** | -.314 |



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| | | | | | | |
|---|---|---|---|---|---|---|
| | Lack of organizational interest in personal development of the employees. | .096 | .295 | .036 | **.530** | -.066 |
| | Competence building. | -.159 | .302 | .213 | **.524** | .005 |
| | Hiring employees who don't have required qualification | -.357 | .052 | .380 | **.519** | .266 |
| Personal ethics | Medical representatives lack of product knowledge | -.094 | -.071 | .120 | .242 | **.641** |
| | Attitude of the medical representatives. | .318 | .129 | .149 | .104 | **.669** |
| | Inability to perform. | -.212 | .196 | .159 | -.203 | **.558** |
| | Perceived negative image of the job. | -.065 | -.105 | .006 | .091 | **.573** |
| | Privileges given to the family. | .365 | .260 | .177 | .241 | **.553** |
| | False reporting. | .130 | .229 | -.002 | -.020 | **.548** |
| | Manipulating tracking apps. | -.037 | .031 | .096 | .044 | **.493** |
| | Misuse of samples. | .087 | .110 | .421 | .264 | **.479** |
| | Generating fake bills. | .078 | .202 | -.111 | -.014 | **-.448** |
| | Bribing doctor's, stockiest and the staffs ofthe stockiest. | .226 | .012 | .389 | .177 | **.421** |

*4.3 Internal Consistency*

Internal consistency reliability, which was measured by Cronbach's alpha ranged from 0.764 for Leadership ethicsto 0.883 for Doctors ethics.

The reliabilityresults are given below.

**Table 8: Internal consistency reliability**

| Variables | Sub Category | Reliability |
|---|---|---|
| Organizational Ethical Behavior | Leadership Ethics | 0.764 |
| | Doctors Ethics | 0.863 |
| | Organisational ethical culture | 0.790 |
| | Organisational ethical practices | 0.834 |
| | Personal ethics | 0.786 |

The reliability co-efficients are greater than 0.6, ranging from 0,764 to 0.863 and are reasonably closer to unity. This ensures the reliability of the questionnaire.

*4.4 Normality*

To apply statistical tests, the data should follow normal distribution. The following table gives the descriptive statistics of the constructs under study.


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**Table 9:Descriptive statistics of the constructs**

| Dimensions | Mean | Median | Mode | Std. Deviation | Skewness | Kurtosis |
|---|---|---|---|---|---|---|
| **LeadershipEthics** | 32.9545 | 34.0000 | 35.00 | 4.69398 | -.329 | .082 |
| **Doctors ethics** | 8.2323 | 8.0000 | 8.00 | 2.26125 | .377 | -.036 |
| **Organisational ethical culture** | 41.07 | 41.00 | 42 | 5.640 | .376 | .390 |
| **Organisational ethical practices** | 21.9848 | 22.0000 | 22.00 | 3.45306 | .376 | .131 |
| **Personal ethics** | 32.5051 | 32.5000 | 31.00 | 3.32770 | .111 | .287 |

The mean, median and mode are approximately equal for all the constructs. Also the skewness and kurtosis are approximately nearer to zero. Hence the data is asymptotically normal.

## 5. Conclusion:

This study demonstrated that the newly developed measurement instrument has overall good level of properties measured as content and factorial validity, internal consistency and reliability. The instrument is robust enough to investigate determinants of Organizational Ethical Behaviour among medical representatives in Kerala. Investigating determinants of Organizational Ethical Behaviour using this instrument may provide comprehensive information that will assist the development of appropriate strategies to improve ethical behaviours of medical representatives. Since the nature and working conditions of the medical representatives are almost similar in various regions,this instrument may be used in general for the measurement of organisational ethical behaviour of medical representatives.

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