

# **Pilot Study: Organizational Creativity in Indonesia's Creative Industries**

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## **Abstract**

Pilot study is a step to evaluate the effectiveness of survey instrument as a medium of communication between researchers and respondents. This paper aims to get the instrument ready for use on actual data retrieval. Pilot study is divided into two stages, qualitative pilot study and quantitative pilot study. In qualitative pilot study, the researcher used nine respondents, while for the quantitative study used 36 respondents. Based on the results, the studies obtained the questionnaires are ready to be used in the process of pilot study quantitative. In the pilot quantitative study obtained the result that of the ninety-nine items of question there are four items that are invalid so that should be discarded. For variable reliability, all variables have a Cronbach alpha value greater than 0.6 so it can be said that all variables are reliable and used in further surveys.

## **Keywords**

Creative industries, Indonesia, qualitative, quantitative, pilot study

## **1. Introduction**

Organizational creativity is the most discussed topic by academicians. This has been proved by the number of articles with the keyword of organizational creativity published in google scholar (1,220,000). A research on organizational creativity can be associated with several fields, most of which is psychology (Barron and Harrington, 1981; Gurteen and Associates, 1998; King and Anderson, 1990, Payne, 1990, Carrol, 1985), with creative products or product innovation (Amabile, 1983; Woodman *et al.*, 1993; Cokpekin and Knudsen, 2011; Moldoveanu and Langer, 2011), with knowledge management (Migdadi, 2005; Chen, 2012).

A study on such fields as innovation and business was initiated by Amabile (1988), who developed creativity model and organizational innovation. In addition, Woodman *et al.* (1993) developed multilevel models of organizational creativity including individual, group, and organization. Both researchers are pioneers of research on organizational creativity. Their research resulted in a conceptual model of research on organizational creativity.

The article aims at conducting a pilot study of the resulted research models (Indriartiningtias *et al.*, 2017). The purpose of the pilot study is to evaluate the effectiveness of survey instrument as communication medium between researchers and respondents.

## **2. Literature Review**

The pilot study was conducted to test the measuring instruments that had been formed both qualitatively and quantitatively. Tests are conducted to see whether the measuring instruments formed are feasible or if there is still a need to adjust the field data, so that when data collection is not needed there should be a revision. The pilot study was carried out in two steps:

### **1. Qualitative pilot study**

The objectives of implementing a qualitative pilot study include (Hartono, 2010):

- 1) Evaluating and identifying problems in survey instruments, called typographical errors and grammatical errors;
- 2) Predict the difficulties that may occur when carrying out the main survey and find solutions to minimize these difficulties;
- 3) Estimating the time needed to complete the questionnaire;
- 4) Measure the sensitivity of data obtained from the respondents' perspective and obtain feedback to increase response rates;
- 5) Assess face validity and content validity.

The pilot qualitative study is divided into two stages, including:

Stage 1: assessment by non-industrial respondents, namely six PhD students in Mechanical and Industrial Engineering UGM.

Stage 2: assessment by industry respondents, namely 3 managers in the creative industry.

The pilot study was carried out in stages, starting in stage 1 and carried out in parallel to each respondent. If there is no more correction by the respondent in stage 1, then it is continued to respondent in stage 2 in parallel. The pilot study phase can be continued to the quantitative pilot study if there is no longer revision from the pilot phase 2 qualitative study.

### **2. Quantitative pilot study**

Quantitative pilot study is done with survey on creative industries. One of its purposes is to find out difficulties encountered when collecting data. Preliminary survey is known as quantitative pilot study. The study was conducted from June to August, 2017.

The quantitative pilot study is further step of qualitative pilot study. The purposes of quantitative pilot study are:

1. testing the reliability of instruments;
2. testing the validity of instruments;
3. testing the probability in the presence of biases.

## **3. Methodology**

Pilot study aims at evaluating the effectiveness of survey in qualitative and quantitative manners as communication medium between researchers and respondents. Pilot study consists of two procedures: qualitative pilot study and quantitative pilot study.

### **1. Qualitative pilot study**

In qualitative pilot study, survey using open questionnaire was applied. Two kinds of questionnaires were distributed to respondents, comprising:

- a. Qualitative questionnaire filled by respondents.  
The qualitative questionnaire used was adopted from Hartono (2010).
- b. Research instrument draft (questionnaire of organizational creativity) used in the main study. Such draft was assessed in qualitative manners (using the first questionnaire) by respondents. The questionnaire was obtained from the previous study by Indriartiningtias *et al.* (2018).

Qualitative pilot study was carried out in parallel manners through two stages:

- a. The first stage: academician respondents  
The purpose of the first stage is to ask for external parties' suggestions (non practitioner/non industry parties). Parties indirectly connected with industry are expected to give suggestions related to the purpose of the qualitative pilot study. Data collection from academician respondents was discontinued when there was no correction.

b. The second stage: respondents from industry parties

The main purpose of the second stage is to ask for suggestions from the side of content instrument. Data from respondents from industry parties were collected after data collection from academicians respondents had finishes. The respondents of the second stage consisted of practitioners in the field of industry who understood real conditions of the organizational creativity. The process of data collection is similar to that of the first stage (parallel). The first respondents were asked to assess the research instrument draft. The data collection was continued to the second respondents if the correction from the first respondent had been completed. The process was done until there was no correction of the instrument draft from practitioner respondents.

The output of the stage was questionnaire which was ready to be examined in quantitative pilot study.

2. Quantitative pilot study

Quantitative pilot study aims at examining the research instrument (questionnaire obtained from qualitative stages). The instrument was measured using a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree). In the stage of quantitative pilot study, 70 questionnaires were distributed using convenience sampling. Data were collected through survey (by distributing main questionnaires straight to the respondents). The validity and reliability of the data collected were then tested. The output of the stage was questionnaire which was ready to be used for real data collection.

## 4. Result And Discussion

### 4.1. Qualitative Pilot Study

The questions of the pilot study related to the purposes and respondent category are demonstrated in Table 1. It is clear from Table 1 that there are 13 items which should be commented by each respondent, both of the first and of the second stage. Each item has different purposes in accordance to five purposes of qualitative pilot study.

Table 1. The questionnaire of qualitative pilot study

Questions	Objective	The stage of Pilot Study
1. Are there any typographical errors? Misspelled words?	A	1
2. Is the type size big enough to be easily read?	A	2
3. Are the terminologies appropriate for the respondents?	A	1, 2
4. Is the instruction clear enough to follow?	B	1, 2
5. Is the question clear enough to follow?	B	1
6. Is the style of the items too monotonous?	B	1, 2
7. Does the survey format flow well? 7	B	1, 2
8. Is the survey too long? Do the item numbers make sense?	C	1, 2
9. How long it takes to complete the whole survey?	C	2
10. Are certain items too sensitive to be asked?	D	2
11. Do you think that the respondents would decline to respond to sensitive items, if any? Why? How to deal?	D	2
12. Overall, are the question items appropriate and relevant for measuring the concepts they want to measure, respectively?	E	1, 2
13. Overall, does this instrument seem like a reasonable way to gain the information the researchers are attempting to obtain?	E	2

The profile of the respondents of qualitative pilot study can be seen from Table 2.

Table 2. The profile of the respondents of qualitative pilot study (n = 9)

No	Respondent	Experiences in industries (years)	Total (%)	Stage
1.	Doctoral students	0	6 (75%)	1
2.	Middle management	8	1 (12,5%)	2
3.	Senior management	9,5	2 (25%)	2
Total			9 (100%)	

From Table 2, it can be seen that the study involved six doctoral students as respondents of the first stage and three practitioners in different fields of industry. The results of the questionnaire are shown by Table 3. As explained in the beginning, the evaluation of the pilot study instrument was done in parallel manners, meaning that each respondent receive the latest update of questionnaire obtained from revision and respondents' feedback. In reference to the results of pilot study as shown by Table 3, it is clear that feedbacks given by respondents were used in the subsequent step to update and revise items in the questionnaire. Based on the feedbacks, the degree of trust to the quality of the instrument will significantly improve. The latest version of the draft was ready to be used to measure organizational creativity and quantitative evaluation.

Table 3. The Overview of the Results of Qualitative Pilot Study

No	Stage	Time and Method	Profile of Respondents	Results
1	1	March 15, 2017 1 pm – 2 pm Direct interview	Two doctoral student of Gadjah Mada University	<ol style="list-style-type: none"> <li>1) Instruction of part A is not clear: <ol style="list-style-type: none"> <li>a. On point 2, can respondents choose more than 1?</li> <li>b. On point 3, is it related to number 1?</li> <li>c. On point 6, creativity in what sense? Is it related to jobs or general characteristics?</li> <li>d. On point 8, profession and business are different. Which one should be referred?</li> </ol>                     Point a to d have been revised.                 </li> <li>2) The instrument is too long. If possible, the factors can be reduced. The factors cannot be reduced.</li> <li>3) The duration of completing the questionnaire is &gt;30 minutes It is relatively short duration since each group of questionnaire was filed by different respondents, as explained in Table 4.1.</li> <li>4) It is suggested to directly collect data since using internet allows respondents to dodge.</li> <li>5) It is suggested to be consistent in addressing employees/workers/staffs. The questionnaire has been revised. The word "workers" is consistently used.</li> </ol>

Table 3. The Overview of the Results of Qualitative Pilot Study (cont.)

<b>No</b>	<b>Stage</b>	<b>Time and Method</b>	<b>Profile of Respondents</b>	<b>Results</b>
2	1	April 3, 2017 1 pm – 3 pm Direct Interview	Two doctoral students of Gadjah Mada University	<ol style="list-style-type: none"> <li>1) On part A, how if the company belongs to more than one field. Respondents can only choose one field.</li> <li>2) What should be filled in questionnaire of Top Management. Part D: What should be filled in the blank and in the two blank boxes? Such question has been revised.</li> <li>3) On question part A No. 6, ‘how creative’ according to who? If according to respondents’ perception, it should be made clear. The perception of ‘creative’ according to respondents and the questionnaire has been revised.</li> <li>4) On questionnaire of the Leader of Group part B, some terms such as ‘team’ and ‘group’ are found. Are they different? The questionnaire has consistently used the term ‘team’.</li> <li>5) Can the terms ‘always’, ‘often’, ‘sometimes’ be changed into quantitative measure to make the difference clear? No, they can not.</li> </ol>
3	2	April 20, 2017 8 pm – 8.30 pm Direct Interview	Professional engineers with 8 years of experience in the field of textile	<ol style="list-style-type: none"> <li>1. Several unfamiliar items related to level of workers on level of operation are found. Some examples are the word ‘intellectual’ (C4) (Is it similar to cleverness?), technical skills (A3) (interchangeable with an ease to operate).</li> <li>2. On question N1, what does resource mean? Can it be made more specific?</li> <li>3. On question D2, what does ‘uncommon’ mean? Dare to take the initiative without being asked by the boss or supervisor to do.</li> <li>4. On question L1, what does ‘freedom to plan freedom’ mean? Since when it comes to jobs, there have been plans or time line made by company.</li> <li>5. Question L4 mentions that rest time has been determined. What does ‘rest’ mean? Rest means time when employees can spend their time to do such personal activities as defecating, urinating, and praying.</li> </ol>
	2	May 3, 2017 through email	Top manufacture management of waste management installation with 8 years of experience	<ol style="list-style-type: none"> <li>1. On question N4, what does information mean? Information is data related to jobs. For example, if the company supplies medical equipment, the data include the development of medical equipment, suppliers’ choice, data of hospital, etc.</li> <li>2. It is better to apply interview in addition to questionnaire.</li> </ol>
	2	May 10, 2017 through email	Online shop owner with more than 5 years of experience	<ol style="list-style-type: none"> <li>1. Online shop does not usually have many employees. They maintain more on innovation of marketing and products.</li> </ol>

## 4.2. Quantitative Pilot Study

The data collection of the qualitative pilot study was done by distributing questionnaires previously tested in qualitative manners. Questionnaires were distributed directly and indirectly (using email).

### 4.2.1. Respondents

Creative industries were selected to be respondents of pilot study using convenience sampling from database. Respondents are expected to have good representation as creative industries in term of creativity process. Due to time limitation of the pilot study, 70 questionnaires were distributed. Of the 70 questionnaires, 36 questionnaires were completely filled by respondents of creative industries (response rate of 50%).

All responses were made in a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Based on characteristics of research variables, the questionnaire is divided into three groups of respondents. Each group of respondents was asked to fill different questionnaires: (1) top management, (2) head of department/ design group/ R and D, and (3) design employees.

The study used 7 variables comprising 3 independent variables (exogenous): individual creativity ( $X_1$ ) with total number of 20 items, group creativity ( $X_2$ ) with total number of 18 items, characteristics of organizational environment ( $X_3$ ) with total number of 35 items, and 2 dependent variables (endogenous): organizational creativity ( $Y_1$ ) with total number of 16 items and organization performance ( $Y_2$ ) with total number of 5 items. The description of variables source of references, definition, and the number of items are depicted in Table 4.

Table 4. Variables for Quantitative *Pilot Study*

<b>Variables</b>	<b>References</b>	<b>Definition</b>	<b>Number of Original Items</b>
<b>Individual Creativity (<math>X_1</math>)</b>	Woodman et al. (1993); Amabile (1988); Amabile et al. (1996); Zhou dan George, (2001)	Creation of new ideas for organizations carried out by individuals	20
<b>Group Creativity (<math>X_2</math>)</b>	Amabile (1988); Woodman et al. (1993); Borghini (2005); Sternberg (2006); Mishra and Shing (2010)	Creation of new ideas for organizations carried out by several individuals who gather in a group	18
<b>Internal Environmental Faktors (<math>X_3</math>)</b>	Woodman et al. (1993); Amabile et al.,(1996); Amar dan Juneja (2008)	The internal environment of the organization that influences the process of organizational creativity, both those that support and inhibit the creative process	35
<b>Organizational Creativity (<math>Y_1</math>)</b>	Woodman et al. (1993)	Novel, valuable and usefull product, service and proses	16
<b>Organizational Performance (<math>Y_2</math>)</b>	Dess and Robinson (1984); Dawes (1999)	Organizational performance is generally defined as financial performance and also non-financial performance, in this study using financial performance	5

### 4.2.2. Validity and Reliability of Instrument

In the pilot study on organizational creativity, validity and reliability of independent variables, dependent variables, and items described in Table 4 were measured. Validity is associated with the accuracy level of an instrument (Hair,

1994). Face validity and content validity were carried out in qualitative manners on stag of qualitative pilot study. This part discusses validity of research variables measured in quantitative manners using convergent validity, particularly Pearson Correlation. The measurement of validity results in the elimination of 1 item of independent variables  $X_1$  and 2 items of variables  $X_3$ . Therefore, the remaining number of items to measure instruments  $X_1$  and  $X_3$  is 19 and 33, respectively.

Reliability of instrument is related to consistency of instrument measurement indicated by value of coefficient of Cronbach alpha ( $\alpha$ ) on each variable. A method proposed by Cronbach (1951) is useful to measure item consistency on similar variables (inter-item reliability). The values of coefficient of alpha of all variables are regarded high (above 0.7) (Ghozali, 2006). The overview of the valid number of items, including the reliability and category can be seen from Table 5.

Table 5. The Valid Number Of Items And Reliabilities Of Variables

<b>Variabls</b>	<b>Number of Original Items</b>	<b>Number of Items valid</b>	<b>Cronbach Coefficient Alpha</b>	<b>Note</b>
$X_1$ (Individual Creativity)	20	19	0.834	Reliable
$X_2$ (Group Creativity)	18	18	0.827	Reliable
$X_3$ (Environment Characteristics)	35	33	0.840	Reliable
$Y_1$ (Organizational Creativity)	16	15	0.768	Reliable
$Y_2$ (Organizational Performance)	5	5	0.822	Reliable

It is clear from Table 5 that all variables have been consistently used to measure research variables. Several invalid items were eliminated and were not used in the subsequent process.

## 5. Conclusions and Suggestions

The article discusses the results of pilot study on creativity of creative industries in Indonesia. Qualitative pilot study results in an instrument free from typographical errors, punctuation errors, avoids uncommon or sensitive words and long questionnaire causing respondents to find difficulties to fill. The results of the pilot study were used in stage of quantitative pilot study.

Quantitative pilot study is a process to examine the reliability and consistency levels of an instrument used. The stage results in an instrument which is ready to be used for the main study.

This study has several drawbacks. First, on the first stage of qualitative study, only respondents of doctoral students were involved. Therefore, further studies should involve respondents of non-industry parties coming from several levels. Second, data obtained from the results of the pilot study can actually be used to identify initial phenomenon of creativity process on creative industries in Indonesia. For that reason, the process should be done not only to test the instrument, but also to identify initial phenomenon occurring in creative industries in Indonesia. Further studies on initial phenomenon of organizational creativity on creative industries in Indonesia should be carried out.

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