A Survey on Crowdsourcing Awareness In Indonesia Micro Small Medium Enterprises

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Abstract. Crowdsourcing is one of the trends in e-business nowadays. It gives solutions for any distributed problem by making a call to crowds via the internet. Crowdsourcing process can solve the company resources issues mainly related to man, machine, money, method, material and marketing. In Indonesia, the best example of crowdsourcing is Gojek Company. The main problem of being faced by Micro Small Medium Enterprise (MSME's) is to obtain the business and employee. By implementing the concept of crowdsourcing, it will solve the stated problem. The objective of this research is to survey the MSMEs awareness of crowdsourcing technology as business solutions. Descriptive statistics approach was used as a research methodology. It based on meeting session and a survey using a questionnaire to 102 MSME East Java, Indonesia as the respondents. The results show 88% of MSMEs in Indonesia does not seem aware that crowdsourcing can helps them to solve their company administration problem. Only 10% aware of the existing of crowdsourcing and will help them in fulfilling human resources, business machines, materials, accessing the market and providing business method. In conclusions, crowdsourcing technology should be exposed to all MSMEs in Indonesia. One framework on how to embedded crowdsourcing into their company should be developed. This framework will help them to used crowdsourcing as one of the ways to enhance their company performance and marketing.

1. Introduction
Micro Small Medium Enterprises (MSMEs) in Indonesia, being identify by the experts have facing the problems in enhancing business competitiveness, such as fulfilling human resources, working, management and technological skill, limitations on access to relevant business information, difficulties in obtaining raw materials, high transportation costs, expansion of business and marketing networks[1]–[3]. According to[4], technological innovation in MSMEs is significant to improve their business performance. In modern society, e-business technology can help to foster a complex business task. Complex tasks and utilize business, and human life cannot be accomplished by an individual or a single computer. It needs to be done by collaborations from thousands of workers all around the world with the help of computers. Through online, the crowd can take part in the undertaking of the task in business[5]. Crowdsourcing is one of the trends in e-business nowadays. Crowdsourcing is one of the technological innovations that can help MSMEs to solve problems owned by MSMEs. It can be done through outsourcing resources to the crowds on internet [6], [7]. for Small business with limited capital, Crowdsourcing is the way out to solve a business problem about resources such as man, material, money, and method from the crowd on Internet [8]. Nowadays, more business applies crowdsourcing as a cost-effective alternative compared to employees or suppliers[9]. Crowdsourcing has become an essential aspect of various business models.
Crowdsourcing is an open innovation strategy, represents the actions of companies or organizations to take functions that have been carried out by employees and outsource them to crowd resources on the internet [10]. [11] defines crowdsourcing as a process of making calls on the internet network to explore creative ideas or to solve problems or evaluate business problems and allow anyone to send solutions. [12] used the term crowdsourcing as a combination of the words crowd on the internet and the outsourcing process to many people. Crowdsourcing is widely implemented in the process of developing new products [13]. [14] stated that crowdsourcing is the process that consists of making an open online call for a creative idea, or problem-solving, or evaluation or any other type of business issues, and to let anyone submit solutions [15]. Crowdsourcing presents several potential applications, open to future developments which have already implemented in companies or institutions [16]. Crowdsourcing not only implement in huge Companies but also been implemented in MSMEs and has been identified as an innovation needed in MSMEs development [17]. Nonetheless, recently, very few studies have shown that open innovation strategies, such as crowdsourcing also exist in MSMEs [18].

This paper discusses the awareness of crowdsourcing technology as solutions among Micro Small Medium Enterprises in Indonesia. This paper aims to get information about the current condition in Indonesian MSMEs, crowdsourcing awareness in Indonesian MSMEs, crowdsourcing infrastructure in Indonesian MSMEs and obstacles adopting crowdsourcing technology to improve MSMEs performance.

2. Related Work

Based on the Law of the [10], Micro Small and Medium Enterprises or MSMEs can be interpreted as a productive business owned by individuals or individual business entities that meet the criteria of Micro Enterprises. Small-scale business is a productive economic enterprise that is independent. It carried out by individuals or business entities that are not subsidiaries or not branches of companies that are owned, controlled, or become part of either directly or indirectly from Medium or Large Businesses. The total net worth or annual sales of the Micro Businesses are shown in table 1:

| MSMEs Size | Criteria                      |
|------------|-------------------------------|
| Micro      | Max 50 Million Rupiahs Max 300 Million Rupiahs |
| Small      | > 50 Million – 500 Million Rupiahs > 300 Million – 2.5 Billion Rupiahs |
| Medium     | >500 Million – 1 Billion Rupiahs > 2.5 – 50 Billion Rupiahs |

Ministry of Cooperatives and MSMEs classified MSMEs in ten areas, as follows (i) Agriculture, (ii) Mining and Excavation, (iii) Processing Industry, (iv) Electricity, (v) Gas and Water, (vi) Construction, (vii) Hotel, Restaurant and Trade, (viii) Transportation, (ix)Finance, and (x)Services.

Crowdsourcing concept can be used in MSMEs to enhance the marketing and problem of the employee. It has been used for various corporate and institutional activities ([11], [12] and has been identified as an innovation needed in MSMEs development. Crowdsourcing is a new method that refers to outsourcing activities carried out by companies to a community or online association where the company offers a gift to the community if it completes several tasks determined by the company [13]. Crowdsourcing as an online, distributed problem-solving and production model that leverages the collective intelligence of online communities to serve specific organizational goals [14]. Online communities, also called crowds, are allowed to respond to crowdsourcing activities promoted by the organization, and they are motivated to respond for a variety of reasons [15]. Figure 1 shows the crowdsourcing process. Crowdsourcing process starts at an organization that has a task that needs to be performed. Then an involvement of community (crowd) that is willing to complete the job voluntarily. This process continues in an online environment that allows the work to take place and the
community to interact with the organization, and the last process is the mutual benefit for the organization and the community.

![Flowchart]

**Figure 1. Crowdsourcing Model [9]**

The crowdsourcing process can be embedded in company management[16]. The Indonesia MSMEs may advise their business to implement and producing new thoughts for authoritative advancement through those stages in the crowdsourcing process. The MSMEs can enhance their company by doing the exercise by bundling, creation or assembling, web improvement, showcasing, item fixing, site advancement, coordination's, preparing, new item advancement, item configuration, publicizing and advancement, thoughts age, critical thinking and more[17][18]. Those exercises are increasingly conservative and cost sparing at whatever point redistribute to outer groups instead of performing inside. Besides, MSMEs additionally could upgrade the imagination and association advancement to get new thoughts for new item advancement or item enhancement through publicly supporting. These may cultivate hierarchical development by tapping outer skill's information and their inventiveness[19]

Besides, MSMEs may offer their items, administrations, aptitudes, skill or even the errands or tasks from their company to the groups in the network. The MSMEs may contract low maintenance crowd workers that perhaps among alumni, ability or a gathering of individuals from networks to finish the assignments. It is because crowd workers in the publicly supporting stage comprise of different novices from low capacity to particular aptitudes. The MSMEs likewise may publicize or tell their company or administrations through web-based social networking or publicly supporting stage to the enormous association or groups to play out the errands and activities. [20]found that the generation procedure of MSMEs are typically work escalated, and such company generally fill in as providers for the substantial assembling company. In this manner, the publicly supporting practice is generally huge to the MSMEs business. It is set as opposed to redistributing to the characterized experts or expert bodies that would be caused additional working expenses to them. In Indonesia, crowdsourcing technology and implementation still low due to limited understanding among MSMEs.

3. Research Methodology

This paper focuses on to find out an awareness of crowdsourcing technology as an e-business strategy in MSMEs. The research was conducted in East Java, Indonesia. East Java Province was chosen because it is the best driver of cooperatives and MSMEs at the national level in 2017. It can be a barometer of innovation and competitiveness of MSMEs in Indonesia. The analytical method used in this study is a descriptive statistical data method. Primary data was obtained through interviews and questionnaire to 102 respondents. The secondary data in this study was obtained from MSMEs Data in
East Java province, purposely to get a better understanding of East Java MSMEs, taken from [21]. Questionnaire has been constructed based on the crowdsourcing model, which must contain:

i. Company (MSMEs) that have a task to be performed  
ii. The crowd willing to performed the task  
iii. Mutual benefit for both company and the crowd  
iv. Infrastructure to make an open call

The questionnaire's constructs were then are tested to 20 MSMEs owner or managers, and being refined to ensure relevance and comprehension in the MSMEs environment. The questionnaire gathered responses using 5-point Likert scales. A numerical score was associated with each response, and this reflected the degree of attitudinal favorableness, with ‘strongly disagree' associated with number ‘1’ on the scale and ‘strongly agree' associated with number ‘5’. The survey also consisted of a combination of open-ended and closed questions. The small amount of open-ended questions invited free comments where it was not always possible to predict the range of responses to a particular [22]

The use of closed questions served to generate and gather information quickly by the researcher[23] The following research questions were addressed in this study:

RQ 1: Do the MSMEs have a task or problem to be performed through an open call?  
RQ 2: What Kind of MSMEs task to be performed?  
RQ 3: Do MSMEs need cheap and effective solutions from internet to solve their problem?  
RQ 4: Do MSMEs aware about crowdsourcing?  
RQ 5: Do MSMEs have infrastructure to make an open call via the internet?

4. Result  
The survey provided 102 MSMEs respondents which have established in minimum three years. They are located in 38 cities or regency in East Java province, Indonesia. The details of the MSMEs category are stated in Figure 2 which, 32% are micro-MMSMEs that have assets below 50 million rupiahs, 51% are small-scale MMSMEs that have assets of 500 million rupiahs and 17 % small MMSMEs that have assets below 5 Billion Rupiah.

![Figure 2: Respondent Profile by MSMEs Size](image_url)

Crowdsourcing implementation from the view of MSMEs Owner or Chief Executive Officers (CEO) is shown in Figure 3. General Manager or managers approve that, the publicly of supporting practices and its advantages. With a total of 75% MSMEs, 24% by the manager and the last 1% by the general manager. It can be concluded that this questionnaire was filled out by people who knew the actual
condition of MSMEs. MSMEs business sectors that were surveyed were traded with a total of 61% MSMEs, restaurants including food and beverage with 33% and Hotels as number 6%.

![Figure 3: Respondent Profile by Positions](image)

Figure 3: Respondent Profile by Positions

Base on Figure 4, 51% MSMEs still run their businesses in real or require physical businesses such as houses, shop houses, workshops, outlets, showrooms, offices, hotels, etc. In contrast to businesses that are run offline, only 3% MSMEs run their businesses online. This number is still minimal compared to the number of internet users in East Java which reached 28 million people. While 46% of MSMEs of businesses runs offline, but also have online as a complement to social media, marketplace, and websites.

![Figure 4: How MSMEs Doing Their Business](image)

Figure 4: How MSMEs Doing Their Business

Out of 102 MSMEs surveyed, only 2% of MSMEs that had international coverage, 14% of Indonesia coverage is, 21% of East Java provinces, a local city 28% and near their resident is 35%. Current conditions of MSMEs' profit in the current year showed 71% in stable condition, while those with sales conditions rose up by 26%. MSMEs with sales conditions fell by 22% MSMEs while 2 MSMEs 2% did not have a sales record, so they did not know the status of their business was stable, up or down. These results show that Indonesia still far away from other countries of using e-business in MSMEs.

4.1 RQ 1: Do the MSMEs have a task or problem to be performed through an open call?
Based on the survey to 102 MSMEs, the result shows that 100% MSMEs' answer that the company have a task to be performed. Based on[13], we can conclude that MSMEs company need varying knowledge, heterogeneity and number of the task of complexity and modularity to be completed. In order to be called as crowdsources.

4.2 RQ 2: What Kind of MSMEs task to be performed?
The answer from the survey also listed tasks to be performed in MSMEs, as shown in table 2.

| No    | Task                                      | Result | Current Solution                  |
|-------|-------------------------------------------|--------|-----------------------------------|
| 1.    | Fulfilling Human Resources                | 100%   | Word of mouth, Job Vacancies      |
| 2.    | Fulfilling Materials/Goods/Services        | 97%    | Buy Raw Materials/Goods/Services  |
|       | Production Materials                      |        | Production Materials              |

Table 2: Survey on SME’s Experiences Hindrance Performing Task 2018
3. Fulfilling Machines/Transportation 11% Buy devices / business machines
4. Fulfilling Business Capital 100% Bank Loan, Own Assets
5. Accessing the Market 100% Word of mouth marketing, Social Media, Internet
6. Fulfilling Providing Solutions/Method 95% Looking for expert help

The table shows that Human Resources is very crucial tasks to MSMEs. These problem can be solved by implementing crowdsourcing to fulfil the lack of manpower of their company.

4.3 RQ 3: Do MSMEs need cheap and effectiveness solutions from internet to solve their problem?
Based on the results, the data shows that 99% of MSMEs need cheap and effective solutions from internet to solve their problem. They also want to expand the Crowdsourcing Platform to improve their businesses and only 1% do not want it. Crowdsourcing able to get cheap and practical solutions because the crowd voluntarily bring their resources to answer crowdsources call.

4.4 RQ 4: Do MSMEs aware about crowdsourcing?
The survey shows that 88% of the respondent does not know about crowdsourcing and only 5% aware of the existing of crowdsourcing as seen in Figure 5.

These result show that the awareness of crowdsourcing is still low among Indonesian MSMEs.

Table 3 shows the percentage of crowdsourcing usage experience based on their company tasks.

| No | Task                                                                 | Result |
|----|----------------------------------------------------------------------|--------|
| 1. | Experiences using crowdsourcing platform to solve human resources task | 20 %   |
| 2. | Experiences using crowdsourcing platform to solve Materials/Goods/Services Production Materials task | 20 %   |
| 3. | Experiences using crowdsourcing platform to solve devices/business machines/Transportation task | 33 %   |
| 4. | Experiences using crowdsourcing platform to solve capital            | 5 %    |
| 5. | Experiences using crowdsourcing platform to solve Accessing the Market | 66 %   |
| 6. | Experiences using crowdsourcing platform to collect creative solutions | 0%     |

From 12 companies that had an experience using crowdsourcing, 66% has implemented it for marketing purposes. This shows that the entire crowdsourcing platform is not being used in their company.

4.5 RQ 5: Do MSMEs have the infrastructure to make an open call via the internet?
The last crowdsourcing initiative is an infrastructure to make an open call (Brabham, 2003). So, the survey has monitored the penetration of computer and internet technology in MSMEs as a basic need.
for adopting Crowdsourcing in the future. The result shows 92.36% of MSMEs already have IT devices in the form of smartphones, laptops, computers, and tablets, and 91% connected to the internet, as shown in figures 6 and 7.

![Level of Devices Ownership](image1.png)  
**Figures 6 :** Level of devices ownership  

![Level of Internet Infrastructure](image2.png)  
**Figure 7** Level of internet infrastructures

These shows that their infrastructure is ready to implement the crowdsourcing tasks in the future.

5. **Discussion and Conclusions**

Our study indicates that there is low awareness of Crowdsourcing among Micro Small Medium Enterprise (MSMEs) in Indonesia. These is due to no exposure to them about the usage of Crowdsourcing and minimal knowledge about e-business technology. Although existing device and internet infrastructure can support the crowdsourcing implementation. Unfortunately it only for inadequate company administration and the usage of crowdsourcing by the experience MSMEs is limited to marketing purposes.

As for recommendations, before MSMEs be migrate to the e-business Crowdsourcing model, a more in-depth investigation needs to be carried out to gain more information for combining business model and crowdsourcing model. In future, one framework on how to embedded crowdsourcing into MSMEs company will be developed. This framework will helps them to used crowdsourcing as one of the way to solve their company problem and enhancing their performance and marketing.

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