

## Quality Assurance and Safety for Children Toys

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**Abstract:** The world of children never gets out of toys. Various forms and types of toys that have been marketed. Toys come from within the country and obtained as imported goods from various countries. Many of these toys do not include information about raw materials or information on prohibitions or age restrictions from children who play them. With the insecurity of toys made from raw materials that do not endanger the child, the government issued Regulation of the Minister of Industry No. 24 / M-IND / PER / 4/2013 on the implementation of the Indonesian National Standard of toy mandatory. There are 12 types of toys that must be certified SNI, but only 8 that have been certified SNI. Small and Medium Industries that produce many children's toys that have not implemented SNI. This is not because the cost has been subsidized by the government, but because of the understanding and commitment to implementation SNI. Based on that, then in this study will be identified consumer awareness about the quality assurance and safety of toys and know the quality assurance system that existed in the SMEs. The method used in this study is a mix method, which uses qualitative and quantitative methods. It is hoped that using these methods can meet the required data. The technique of spreading the questionnaire is by using Nonprobability sampling, which then will be processed and analyzed descriptively and tested using Wilcoxon. Consumers in Bandung and Jakarta have understood the importance of quality assurance and safety in toys, but the price of toys becomes its own constraint, while the manufacturer (SMEs) toys in the city of Bandung and Jakarta know that the guarantee of quality and safety for toys is very important, but they get limited information, socialization and funds.

**Key words:** *Quality assurance system, Child safety Toys, Children Toys, SMEs, SNI*

### INTRODUCTION

Toys are one of the necessities for a child. With the toy helps the growth and development of fine motor and rough motor child. But in line with the development of the era, parents should be more vigilant and understand more thoroughly toys that will be bought. Raw materials toys become an important factor to note. The more chemicals used in a toy raw material, the more substances contained therein are not necessarily safe for the health and safety of children. Based on that, the government requires that children's toys marketed in Indonesia must meet the quality standards that can guarantee the safety and health of children (Regulation of the Minister of Industry No. 24 / M-IND / PER / 4 / 2013 on the implementation of the Indonesian National Standards toy is mandatory). One form of quality standard that can guarantee it is SNI (Indonesian National Standard). Director General of Small and Medium Industries (SMEs) (2015) [1] states that SNI toys have no compromise anymore at this time and must be certified because it concerns the safety and health of children.

In Indonesia, many SMEs are engaged in

the production of toys, according to Director General SMEs Industry Ministry Euis Saedah (2014) [2] the number of SMEs toys scattered throughout Indonesia are thousands. With the regulation of the government, the SMEs must be able to prepare its toys quality control system that is able to guarantee consistently the safety and health of the child or implementation of SNI. Starting April 30, 2014 some toy products must meet the Indonesian National Standard (SNI). In addition to the provisions on SNI on toys applicable to local products, it applies also to imported products. If children's toys of local products are already on the market but not yet SNI certified, then the product will be withdrawn from the market. If the toy product is imported and has not fulfilled the SNI then it is prohibited to enter the Indonesian customs territory. For those who have already entered it must be sent back (re-export) to the country of origin or destroyed.

The survey results from the Indonesian Consumers Foundation, imported toys from China was not healthy so it can interfere with the child's health and even mental. Secretary of the Director General of SMEs Ministry of Industry Busharmaidi

said that imported toy products control 70% of the local market allegedly use a lot of hazardous materials for the health of children. With the enactment of Regulation of the Minister of Industry No. 24 / M-IND / PER / 4/2013 is expected to reduce the number of imported child toys.

Based on the problems faced by SMEs of toys product to be able to implementataion of SNI, problem identification in this research is to know consumer awareness and understanding about quality and safety of children toys and implementation of quality assurance system that available on SMEs of children toys .

## LITERATURE REVIEW

According to Gasperz [3] "A Quality Management System is a set of documented procedures and standard Practices for system management aimed at ensuring the suitability of a process and product (goods / services) to the requirements or requirements specified or specified by the customer or organization".

The National Standardization Agency for Indonesia (BSN) has established the Indonesian National Standards or SNI Children Toys, namely SNI 8161: 2015, Paint for Children Toys, SNI ISO 8124-1: 2010, Toy Safety - Part 1: Security aspects related to physical properties and SNI ISO 8124-3: 2010, Toy Safety - Part 3: Migration of certain elements, SNI ISO 8124-4: 2010, Toy Safety - Section 4: Swings, slides and toys of similar activity for use inside and outside the living environment, and SNI IEC 62115: 2011, Electrical Toys – Security [4-5].

There are several things to ponder when establishing a QMS for an organization [6].Of great importance is guaranteeing it is a strategic choice influenced by the varying objectives, needs, and products and services provided. This structure is based mainly on the Plan-Do-Check-Act (PDCA) cycle and allows for continuous improvement to both the product and the QMS. The basic steps to implement a quality management system are as follows:

- Design
- Build
- Deploy
- Control
- Measure
- Review
- Improve

## METHODOLOGY

In this research, method used mix method between qualitative method and quantitative method. Quantitative methods are used to determine the existing quality assurance system in the company, it will be distributed questionnaire. In addition it will be distributed questionnaires to consumers to obtain information about knowledge and customer awareness of quality and the importance of SNI certified for children toys. While qualitative method with in-depth interview approach to study quality assurance dan safety for chindrens toys that have been implemented by SMEs.

Sampling technique used to distribute the questionnaire is Non probability sampling by using purposive technique. The technique is used because the sample is the SME toy products in the city of Bandung and Jakarta that have not implementataion SNI. For the distribution of questionnaires to consumers, the sampling technique used nonprobability sampling by using confinience sampling, this technique is chosen because the respondents are consumers who buy toys in toy stores and who accidentally visit the toy store, the number of samples for each city as many as 100 consumers . Whereas for interview using nonprobability sampling with expert sampling technique.

Based on the primary data that has been obtained, the next will be done descriptive data analysis to know the knowledge and awareness of consumers in the city of Bandung and Jakarta on the guarantee of quality and safety in toys. In addition, data processing and testing by using Wilcoxon test to determine whether knowledge and consumer awareness in the city of Bandung and Jakarta are the same in terms of quality assurance and safety for toys. Likewise, the results of questionnaires and interviews distributed to toy producers who have not been implementation and also have implementation SNI will be analyzed descriptively.

### Wilcoxon Test

Hypothesis testing :

H0:  $d = 0$  (there is no difference of awareness and consumer knowledge about the quality assurance and safety on children toys)

H1:  $d \neq 0$  (there is a difference of awareness and consumer knowledge about the quality assurance and safety on children toys)

D shows the difference in value between the two treatments [7].

$$\text{Wilcoxon Test Statistics}$$
$$Z = \frac{T - \left[ \frac{1}{4N(N+1)} \right]}{\sqrt{\frac{1}{24N(N+1)(2N+1)}}$$

## RESULTS AND DISCUSSION

### Recapitulation of Consumer Understanding Bandung and Jakarta Regarding Quality Assurance and Safety for Children Toys

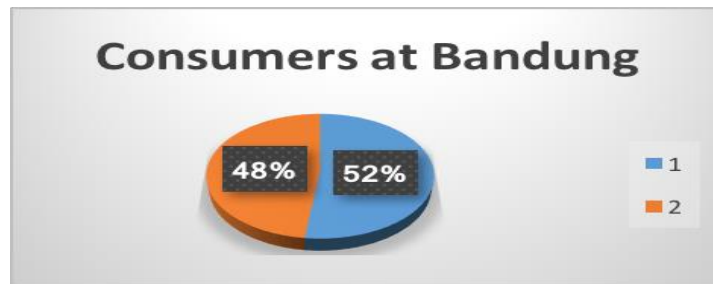


Fig 1. Result of Consumer Answer in Bandung

Based on the results of questionnaires distributed to consumer toys in the city of Bandung, then obtained 52% (1) of consumers answered strongly agree on:

- Shape, size, weight, no harm to the child [8]
- Toys are made from environmentally friendly raw materials
- Toys are made from raw materials and composition that are safe for children (not containing harmful chemicals) [9]
- The electrical system (using batteries) toys is harmless [9]
- Children's toys use the appropriate color paint and are safe for the child
- Toys are not flammable
- Conformity of toy with age
- Toys are made with a design that does not harm or injure a child
- Children's toys packaging includes information such as composition, function, and age [8]
- Children's toys are accompanied by guidebooks that can inform the function
- There is information that the toy has passed the Quality Control and safety test
- Children's toy must be Indonesian National Standard (SNI)

While the rest 48% agreed (2) to the statement below:

- Children's toys have a look that interests children
- Has a primary or additional function that is appropriate to the child
- Children's toys have a raw material composition which is in accordance with the informed on the packaging
- The suitability of the original shape to that shown on the packaging
- Children's toys are not easily broken or damaged
- There are spare parts in case of damage
- The presence of customer care or information about customer care that can be contacted if there is a complaint
- Provide quick response in case of damage or complaints from consumers
- The toy-making company is well known to the public
- Explication of toys function whether soft toys or hard toys
- The suitability of a child's toy form with its function



Fig 2. Result of Consumer Answer in Jakarta

Consumers in Jakarta state that 44% strongly agree (1) and the remaining 56% agree (2) on 23 statements submitted regarding the quality assurance and safety for toys.

To compare the knowledge and awareness of the consumers of Bandung and Jakarta on the quality assurance and safety for toys, then performed wilcoxon test with the following results:

variables: Bandung - Jakarta  
 2281 sum of positive ranks  
 2375 sum of negative ranks  
  
 96 n  
 2328.000 expected value  
 273.649 standard deviation  
 -0.172 z  
 .8636 p-value (two-tailed)

Based on Wilcoxon test results above get the value  $Z < Z$  table, so  $H_0$  accepted. This shows that the knowledge and awareness about quality assurance and safety for children toys

of consumers of Bandung the same as consumers of Jakarta.

Consumers have understood the importance of quality and also the safety of toys for children, indicating that a child toys circulating in the market must be guaranteed quality and the toy is safe for children. With SNI certified will greatly assist the community in choosing toys that are guaranteed quality and safety.

It's just that it is not paralel with the knowledge of the toy manufacturers in Indonesesia. Proven by the number of child toy manufacturers that have not implemented a system of quality assurance and safety for toys.

**Recapitulation of Answer of Manufacturers Knowledge Regarding Quality Assurance and Security for Children Toys in Bandung and Jakarta**

Below is a recapitulation of children's toy manufacturers' answers to quality assurance and safety on toys:

**Table 1 Answer Mode of Child Toy Manufacturer in Bandung**

No.	Statement	Median	Mode	Interpretation of The Mode
1	Gender		Female	Female
2	Status		Merried	Merried
3	Age (in year)	43	38, 48, 50, 70	38, 48, 50, 70
4	Length of work (in year)	10	3 & 20	3 & 20
5	Unit/division of work		sewing	sewing
6	Income per month		<Rp 1500000	<Rp 1500000
7	Understand the importance of quality	1	1	Yes
8	Having awareness of quality as a shared responsibility	1	1	Yes
9	Provided training on quality and safety for toys	2	2	No
10	There is socialization of quality and communicated to all employees	1	1	Yes
11	Top management is committed to implementing a quality assurance and safety system	1	1	Yes
12	All employees are committed and execute quality assurance and sefety	1	1	Yes
13	There are standards of quality and safety of toys that must be met	1	1	Yes
14	Every employee understands and knows the quality and safety standards that must be met	1	1	Yes
15	Execute quality control and safety	1	1	Yes

16	The products manufactured meet the established quality and safety standards	1	1	Yes
17	Children toys meet the four characteristics of quality toys (shape, composition, electrical system, color)	1	1	Yes
18	Understand the national quality and safety standards that must be met	1	1	Yes
19	Understand the SNI series that should be applied to the children toys	2	2	No
20	Execute physical and mechanical testing of toys	2	2	No
21	Execute burn test on toys	2	2	No
22	Execute testing of chemical substances in toys	2	2	No
23	Toy produced has fulfilled the requirements in SNI	2	2	No
24	The toys produced by SNI certified	2	2	No

Based on the results above shows that toy manufacturers in Bandung, understand the importance of quality and safety for toys, but they are not given special training about it. Producers already have quality standards that must be met, but they do not understand about SNI and what tests should be done to ensure the quality and safety for toys.

In addition to distributing questionnaires to toy manufacturers in the city of Bandung, also conducted interviews on producers who have applied SNI in the city of Jakarta, the manufacturer of the toy is the CV Wooden Toys. Awareness of the importance of producing quality and safe toys for children is the main reason this CV Wooden Toys implements SNI. SNI series that has been implemented is

- SNI ISO 8124-1: 2010 (Security of toys - Part 1: Security-related physical and mechanical aspects)
- SNI ISO 8124-2: 2010 (Security of toys - Part 2: combustible properties)
- SNI ISO 8124-3: 2010 (Security of toys - Part 3: Migration of certain elements)
- SNI 767: 2010 (Textile - azo dye requirements and formaldehyde levels on fabrics for infant and child suits)

Many benefits are obtainable after implemented the SNI, the belief of consumers about the product that it produces, and it is always continuous improvement the quality of the resulting product. According to Bernik [4] doing continuous improvement is one of the key to be able to implementation the quality assurance system, and never feel satisfied with the quality that has been achieved. This is what has been done by CV Wooden Toys to obtain trust from consumers.

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

Based on the results of the research that has been carried out obtained the following conclusions:

1. Consumer toys in the city of Bandung 52% stated strongly agree and the rest agreed, while 44% of Jakarta consumers stated strongly agree and the rest agreed that a toy is guaranteed quality and safety. One of the evidence that toys are guaranteed quality and safety with implemented and obtain the SNI certificate. Based on the results of Wilcoxon test consumers of Bandung and Jakarta have the same knowledge and awareness of quality assurance and safety for toys. However, in the opinion of some toy manufacturers, consumers do not fully understand the quality assurance, the consumers are not from big cities, they prefer toys that are cheap, not based on whether the toys are have good quality and safe for children.
2. Toys manufacturers in Bandung and Jakarta have understood the importance of quality assurance for the toys they produce. However, the socialization of SNI has not been well and evenly distributed, there are still many producers and employees who have not understood how to implementation the SNI. Based on data from toys companies that have implemented SNI, there are many toy companies in Central or East Java that do not know the benefits and the purpose of implementation the SNI, so they are still hesitant to apply it. Besides, some tests on toy production to ensure the safety of the toys for children, it is because of the high cost that must be issued if you want to test the safety for toys

### **Recommendations**

Socialization of SNI becomes fundamental and obstacle for producers and consumers to better

understand the importance of quality. Understanding and knowledge about SNI is still limited to producers and consumers in big city area only, while in socialization area about SNI has not reached yet. Possible consumers or producers have heard it. The constraint faced by the producers is the technical and skill problems of the employees who are less supportive, while in terms of consumers is a matter of knowledge and awareness of quality that can not be seen from the price of a toy. The price of a toy can not guarantee its quality, toys can be expensive but it is dangerous for children, or even cheap toys turned out to be guaranteed quality.

To facilitate the producers of toys, it is necessary to made a model of quality assurance and safety for toys that are easy to implementation, so that will

[5] ISO/TC 181, 2017, Safety of Toy, [www.iso.org.com](http://www.iso.org.com)

[6] Bernik, Merita, 2017, Model Of Quality Management System to Maintain Quality Consistency in Higher Education, Review of Integrative & Business Economics Research (RIBER), Rev. Integr. Bus. Econ. Res, Vol 6(4), 235-242

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help the toy manufacturers to be able to apply and obtain SNI certification.

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