

TiDi (TOUCH- FREE TISSUE DISPENSER): AID TO THE SANITATION PROBLEMS IN PUBLIC AND PRIVATE RESTROOMS MIDST THE COVID- 19 PANDEMIC

**JUAN MIGUEL G. CARRANCEJA¹, LIEZL H. SAMSON², JEREMIE I. VALLEZ³,
MONICA V. KAWABATA⁴**

<https://orcid.org/0000-0001-9554-7890>¹, <https://orcid.org/0000-0003-1013-3379>²,
<https://orcid.org/0000-0002-3579-0140>³, [0000-0002-1028-9755](https://orcid.org/0000-0002-1028-9755)⁴,
aeronkim20@gmail.com¹, medranojulianna@gmail.com², brdgsmsn@gmail.com³,
mvkavabata@letran-calamba.edu.ph⁴
Colegio de San Juan de Letran Calamba
Ipil- Ipil St. Bucal, Calamba City Laguna, Philippines

ABSTRACT

The researchers conducted a study as to how to prevent further bacterial or virus transmissions on the surfaces of tissue dispensers in public and in private restrooms during these times of pandemic by creating an automated touch-free tissue paper dispenser. The study is designed primarily to: (1) determine the alpha testing results of the TiDi (Touch-free Tissue Paper Dispenser) in dispensing toilet tissue paper; (2) determine the evaluation of the prototype in terms of its (a) functionality; (b) reliability; (c) and maintenance; and lastly (3) identify the insights and recommendations/ suggestions of the chosen respondents about the TiDi (Touch-free Tissue Paper Dispenser) prototype. Research data and information collected during the alpha and beta testing were conducted to determine if the prototype served its purpose and cope with its main functionality to automate the dispensing of tissue. Alpha testing was used to determine if the TiDi (Touch-Free Tissue Paper Dispenser) was able to function before the beta testing. Beta tests were evaluated in the form of survey questionnaires that were distributed to selected professionals with expertise related to the study. Insights and recommendations were collected from the respondents as to the prototype's set indicators. Results showed that in terms of functionality, the prototype achieved its full capacity in detecting and dispensing tissue automatically, thus obtained a descriptive remark of Highly Acceptable. In terms of its reliability dispensing a satisfactory amount of tissue during a preferred duration, obtained a Highly Acceptable remark. Moreover, regarding its maintenance as well as the troubleshooting manual provided for evaluation, was remarked Highly Acceptable by the respondents. Additionally, in the interview conducted by the researchers, it was determined that the prototype needed improvement in terms of its size and choice of materials used. It is noted that the said prototype has the capability to detect hand movement for accurate dispensing of tissue/s. The TiDi prototype is sustainable allowing it not only to function during this pandemic but thereafter.

Keywords: Touch- Free Tissue Dispenser; automation; alpha and beta testing, survey and interview; Calamba City Laguna, Philippines