

Research Innovation “Upcycling Banana Trunks into Fashion Enterprise: ITDO Model” Wins NRCT Special Award and Gold Medal at the 2026 Japan Design, Idea and Invention Expo (JDIE 2026) in Japan

The research innovation “Upcycling Banana Trunks into Fashion Enterprise: ITDO Model” has received the prestigious NRCT Special Award and a Gold Medal at the 2026 Japan Design, Idea and Invention Expo (JDIE 2026), an international exhibition and competition showcasing outstanding research, innovations, designs, and inventions held in Osaka, Japan.

This achievement represents another remarkable milestone that reflects the research and innovation capabilities of Suan Sunandha Rajabhat University on the international stage. It highlights the University's commitment to advancing creative solutions that integrate academic knowledge, technology, innovation, and community development to achieve sustainable outcomes.

The research innovation focuses on increasing the value of banana trunks, an agricultural waste material, by applying the concept of Upcycling to develop value-added materials and fashion products. The innovation is based on the ITDO Model, a comprehensive development framework that connects research, innovation, design, and community entrepreneurship. This model aims to transform local resources into valuable products that generate income, create economic value, and support sustainable development within communities.

This innovation demonstrates the integration of knowledge from engineering, industrial technology, and creative design to develop environmentally friendly products, reduce agricultural waste, and promote efficient resource utilization in accordance with the principles of the Circular Economy. Furthermore, it contributes to strengthening the foundation of local economies and enhancing the capabilities of community enterprises, enabling them to develop competitive products that can successfully reach international markets.

The research innovation was developed by:

Assistant Professor Dr. Panu Pattanapanithipong

Associate Professor Dr. Rosjana Chandhasa

Ms. Chutima Ngampipat

from the Faculty of Engineering and Industrial Technology, Suan Sunandha Rajabhat University.

科研成果“Upcycling Banana Trunks into Fashion Enterprise: ITDO Model”**荣获2026日本设计、创意与发明博览会（JDIE 2026）NRCT特别奖及金奖**

科研成果“Upcycling Banana Trunks into Fashion Enterprise: ITDO Model”**在日本大阪举行的 2026 Japan Design, Idea and Invention Expo（JDIE 2026）国际设计、创意与发明成果展评中，荣获 NRCT特别奖（NRCT Special Award）及金奖（Gold Medal）。这一重要荣誉再次体现了宣素那他皇家大学（Suan Sunandha Rajabhat University）在国际科研与创新领域的卓越能力与发展潜力。**

该研究成果是一项以农业废弃资源——**香蕉树干**为核心开发的创新技术，旨在通过提升农业剩余资源的附加价值，推动可持续产品开发。研究团队运用****升级再造（Upcycling）**理念，将香蕉树干转化为具有高附加价值的时尚材料与产品，并通过 ITDO Model 创新发展模式**

，将科研、创新、设计以及社区创业者培养相结合，推动地方资源价值提升，实现经济收益创造与可持续发展目标。

该创新成果充分体现了工程技术、工业技术与创意设计领域知识的深度融合，通过开发环保型产品，减少农业生产过程中产生的废弃物，并依据**循环经济（Circular Economy）**理念促进资源高效利用。同时，该成果有助于推动地方经济发展，提升社区企业（Community Enterprise）的创新能力与市场竞争力，使其具备参与国际市场竞争的发展潜力。

该研究成果由泰国宣素那他皇家大学工程与工业技术学院研发团队共同完成：

助理教授帕努·帕塔那帕尼提蓬博士（Asst. Prof. Dr. Panu Pattanapanithipong）

副教授罗乍娜·占他萨博士（Assoc. Prof. Dr. Rosjana Chandhasa）

讲师楚蒂玛·昂披帕（Chutima Ngampipat）

工程与工业技术学院

宣素那他皇家大学（Suan Sunandha Rajabhat University）