

PROCEEDING

SUSTAINABLE DESIGN
IN CREATIVE
INDUSTRY TOWARDS
BETTER HUMAN LIFE

INTERNATIONAL CONFERENCE ON
CREATIVE INDUSTRY 2011

Organized by:

DEPARTMENT OF INDUSTRIAL DESIGN
Faculty of Civil Engineering and Planning
Sepuluh Nopember Institute of Technology

10 March 2011, Denpasar Bali

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PREFACE



Welcome address from

Prof. Ir. Priyo Suprobo, MS, PhD.

Rector of Sepuluh Nopember Institute of Technology

Ass. wr. wb. and sincere greetings to all.

It gives me great pleasure to welcome all the speakers, participants and distinguished guests to the International Conference on Creative Industry (ICCI) 2011 at Sepuluh Nopember Institute of Technology. There are fourteen field of creative industry will be discussed in parallel session. I trust that you will find the ICCI 2011 informative and Interesting, and hope that numerous creative industry discussions will be deliberated and friendship will bloom as well. I hope that you exploit your best shot and effort during this one day, not only to present your paper but also to get to know each other and broaden your relationship. The Organizing Committee is ready to assist you and help you. Please, feel comfortable during your stay in Bali.

Sepuluh Nopember Institute of Technology is among the top universities in Indonesia which focus on research-driven activities especially in science, engineering and art fields. The variety of research activities are multi-disciplinary in nature, extending across faculties and departments, often crossing traditional subject boundaries. Thus, this conference is initiated to provide opportunities for the young researches to gain invaluable experience and useful insights on issues pertinent to their areas of specialization. In addition, this conference also aims to enhance the contribution and strengthen the role of the graduate scholars in responding to various issues and challenges facing graduate education.

I would like to take this opportunity to express my greatest utmost gratitude to the Reviewers and the Organizing Committee for their relentless effort and undivided attention in ensuring the successful implementation of the conferences. Las but not least, my sincere appreciation to all the sponsors and all those involved in making this seminar possible

Personally, I hope you gain benefit from this conference, and get pleasure from your stay in Bali.

Wass wr wb. Thank you.

PREFACE



Welcome address from

Prof. Ir. Joni Hermana, MSc, PhD.

Dean

Faculty of Civil Engineering and Planning

Institut Teknologi Sepuluh Nopember (ITS)

*Assalamualaikum Wr. Wb.
Peace be upon all of us*

First of all, I would like to welcome you all - our distinguished guests and delegates from national and overseas to the International Conference on Creative Industry 2011. I wish you have a pleasant stay in Indonesia, especially here, in Bali and may this conference be a rewarding experience to you.

I should admit that it is a great honour and privileged for me to address a message in this wonderful occasion. The Conference - which is organized by our colleagues from the Department of Product Design, Faculty of Civil Engineering and Planning - is hoped to become the accentuation of ITS commitment towards the development of creativity as a part of new economic backbones for the nation. As we know we have just been leaving the information technology era to the -what so called - conceptual era.

The conference is conducted to cover a wide range of design and creative industry issues. I hope this one day conference will facilitate interesting discussions and exchange of ideas between all participants. Furthermore it would provide us a state-of-the-art of information and knowledge in the challenging world of design and creative industry. The growing success of our institutions and expertise should urge us to develop our competitive capabilities, especially as we face certain challenges which would be overcome through more smart works, working together hand in hand. We will work mutually to develop a common path and collaboration opportunities for future actions and researches on multi disciplinary design areas.

I would like to take this opportunity to express my sincere appreciations and gratitude to the invited speakers and the organizers of the Conference for their commendable efforts in organizing and conducting the conference and also to the co-organizers as well as participants for their distinctive roles in making this conference a success.

I would like to conclude my remarks by wishing all the best for the Conference and wish all participants have a very pleasant stay here in Bali.

Thank you.

Wassalamualaikum Wr. Wb.

PREFACE



Welcome address from

Ir. Baroto Tavip Indrojarwo, MSI

Head

Department of Industrial Design

Faculty of Civil Engineering and Planning

Sepuluh Nopember Institute of Technology

Ass. wr. wb. and sincere greetings to all.

First of all, kindly, I would like to give you a great gratitude for you coming to this important event that is conducted by our department. Our department has been founded for 13 years. As an education institution, it is still an infant. However, we have tried to give our best in contributing our knowledge in the field of Design and Creative Industry especially how we contribute to help the community for having better design facilities, indirectly.

We know that it is still a long way to achieve the target; however, still one step is much better than nothing.

This international conference will help us and, I believe you too, to comprehend more knowledge especially in design and creative industry.

Notwithstanding, the special topic of this conference is for the sustainable design in creative industry, but it will not confine the problems on this region since other regions may have serious problems related to design and creative industry.

We hope that you will enjoy all programs in this conference.

Wass wr wb. Thank you.

PREFACE



MESSAGE from

Dr. Ir. Bambang Iskandriawan, M.Eng.

The Chairman of ICCI 2011 Organizing Committee

Ass. Wr. Wb. and sincere greetings to all.

On behalf of the Organizing Committee, it is my greatest pleasure to extend our warmest welcome to all of you to the 1st International Conference on Creative Industry 2011 (ICCI2011).

The 1st International Conference on Creative Industry has been organized by Department of Industrial Design, Faculty of Civil Engineering and Planning, Sepuluh Nopember Institute of Technology. It will be an opportunity for international community, academics, scientist, and engineers to present and to exchange much ideas and their progress in researches. In line with educational process, this technical conference is designed to promote tremendous researches, enhance the skill in paper writing and oral presentation. All the excellent papers and experiences gained in this conference will be much valuable to increase the quality of research and design achievement. This year around 126 abstract papers had been reviewed and 90 full papers from Indonesia and overseas are accepted for the conference proceeding.

Two keynote and three plenary speakers are invited in the plenary session after opening ceremony. These distinguished speakers are The Minister of Cooperative and Small Medium & Enterprise and General Director of National Export Development as the representative of Trade Ministry. Oral session will be held during conference will be focusing on all aspect in creative industry. We are fortunate to have a lot of fine quality papers that belongs to:

25 papers on Graphic, Advertising, Film, Videos and Television

20 papers on Architecture & Interior and Environment

26 papers on Product and Craft

19 papers on Fine Art, Design Management, Research & Development, Social Art, Music, Fashion and Recording

I would like to thank you to various contributors, speakers and participants for your generous support of this conference. It is my pleasant duty to thank all the members of Organizing Committee and the Advisory Boards of Reviewers for their advices and help. We are grateful to all the Sponsors, Supporters and Exhibitors for their spontaneous response and encouragement by way of committing funds and extending help in kind.

I would like to sincerely thank the Dean of Faculty of Civil Engineering and Planning, ITS as well the ITS Rector, for fully supporting the Committee to make this conference happen and to make it a success.

Finally, we encourage you to explore the beautiful sights of Bali, East Java and Indonesia during your stay. I wish you a very pleasant stay here in Bali and finally, let me wish all of you a meaningful and fruitful conference.

Thank you and hope to see you again in ICCI 2013. Wass. Wr. Wb.

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ACKNOWLEDGEMENT

The 1st International Conference on Creative Industry (ICCI)

Organizing Committee wishes to express its gratitude and appreciation to:

Prof. Ir. Priyo Suprobo, MS, PhD.
Rector of Sepuluh Nopember Institute of Technology.

Prof. Ir. Joni Hermana, MSME, PhD
Dean Faculty of Civil Engineering and Planning
Sepuluh Nopember Institute of Technology.

All session moderator and conference speakers, for their participation.

All conference sponsors, supporters, exhibitors and advertisers for their generous support.

All participants and other who have in one way or another contributed towards the success of this conference.

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The using of Metal Wire to Develop Technique in Weaving Recycled Newspaper Strands

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Abstract - Weaving is one of the most popular and known technique in processing raw material to be goods, especially in the craft industry.

Usually this is done by weaving material in strands form, which is arranged in horizontal and vertical structure in many combination resulting in varied texture and pattern.

This paper discuss the development of weaving technique, by adding metal wire in the strands. This technique is developed in a research done with interior design students in duration of one semester.

The usage of metal wire opening new design probability, as the strands are now more stiff and yet still flexible to be formed, resulting in more three dimensional texture and pattern.

The material used in this technique is recycled newspaper, in order to develop the craft industry in using recycled material. This technique is also applicable for other materials.

Index Terms— newspaper, recycle, weaving, wire

I. WEAVING AS A FORM OF TRADITIONAL CRAFT

Weaving is a form of traditional craft technique which is very well known in Indonesia. Objects are found in every region using varied materials and weaving technique. Most of them has both symbolic and practical functions which relate to social and culture life of the people using it.

Definition of weave according to Merriam-Webster Dictionary is : w[=e]v “to unite, as thread of any kind, in such manner as to form a texture; to entwine or interlace into a fabric; as, to weave wool, silk, etc.; hence to unite by close connection of intermixture; to unite intimately”

Traditional weaving usually use natural material which is easy to find in its region like rattan, bamboo, pandan leaves, *enceng gondok* (some sort of water plants) and various kind of plant roots. Artefacts made from weaving shown nature condition and

culture of a society. Bellow are several points which are used to acknowledging an artifact according to Ahadiat Joedawinata [1]:

- geographical and ecological conditions of a region
- basic material character and availability
- people activity in order to fulfill his or her practical living functions
- social events, culture and people's habit

In creating a traditional weaving product which has art values, the artist going through varied process. A research done by Prof. Yusuf Affendi [2] discuss that this process is influence by :

- Local genius
- Traditional expertise
- Indigenous material
- Unidentified cultural mystery
- New technology and product
- Market and management knowledge
- Art history/artifact/archeology
- World cultural events
- Fashion trend/mode
- Tourism
- Local character
- Natural material processing
- Design as art

Hence, a craft product like weaving product is not only influenced by local values, but it is also affected according to the change of time, trend and development.

II. WEAVING AS A MEANS TO INCREASE PRODUCTIVITY FOR MIDDLE-LOW INCOME SOCIETY

According to Soetsu Yanagi [3], craft could be grouped as 2 which are folk craft and artist craft. Folks craft is simple, using local material, handmade,

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made in large quantity and usually using natural material which are abundant at that region. Folk craft are usually centralized in areas, for example : batik central, ceramic central, etc. On the other hand artist craft is a work which is created based on subjective vision of its creator, made in limited quantity, relative high price tag and the material used does not have to be local.

This paper will focused more on folk craft. Traditional weaving could be found on crafts centrals. The technique usually is passed on for several generation, have its own esthetic pattern and using abundant material found in its region. For example, Indhiang bamboo weaving [4] comes from Tasikmalaya which has plenty of bamboo trees, and Cintamanis rattan weaving [5] comes from Southern Sumatra, a region which is a rattan supplier since the Dutch colonial era.

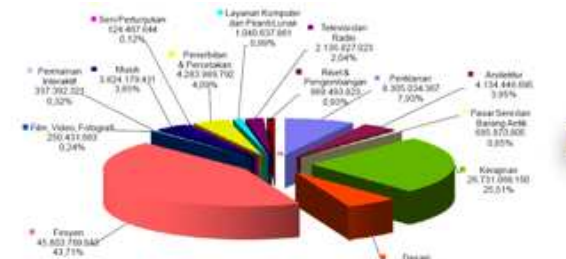


Picture 2. Tasikmalaya woven bamboo basket (source : <http://gandskri.files.wordpress.com/2010/06/024-bambu-b0b0k0-kecil.jpg>)



Picture 3. Cintamanis rattan Lamp Shade (source : Katalog Anyaman Rotan Cintamanis Koleksi Museum Sumatera Selatan)

Craft, in this case weaving handmade craft, is one of fourteen sector of creative industry which are announced by Indonesian government through its Ministry of Trade of the 2009-2015 period. Contribution of this sector to Product Domestic Bruto of creative industry is significantly large which is about 25.51%. Acknowledging this opportunity, weaving is a potential area to open more job opportunity, which could increase income. Weaving skill could be taught to people with low- medium income since elementary school or to those who could not afford further education.



Picture 4. Creative industry as subsector, contribute to Product Domestic Bruto in 2006 based on constant price of year 2000 (source : Indonesian Ministry of Trade)

III. RECYCLED NEWSPAPER AS WEAVING MATERIAL

As formerly mentioned, traditional weaving industry usually use material found in its region. However, there have to be another strategy in order to develop this industry in urban or city area, which targeted people in productive age but have only elementary education or none. The usage of recycled newspaper could be an alternative, regarding the abundant source of this material in urban area.

There are many society who already using this material to create handmade craft product.



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Picture 5. Man weaving recycled newspaper
(source : www.thestar.my)

IV. THE USAGE OF WIRE TO DEVELOP DESIGN POSSIBILITIES

Weaving technique commonly used is by interlacing horizontal and vertical strains to form structure of the object being made. Without horizontal and vertical strains interlocking tightly despite it's interlacing variation, the surface wouldn't have enough strength to hold it's form.

Interlacing variation of the horizontal and vertical strain produce the texture and motives of the object's surface. As there are many variations and techniques developed to create wonderful patterns, the weaving texture is limited to two-dimensional texture.

To be able to have a wider variation to the form and texture of an object the strains should be able to have independent strength and flexible at the same time. In order to achieve this, several interior students experimenting to use wire as the core of the newspaper strain to add independent strength.

Material to be used is wire. Many kind of wire can be use, like cooper wire which is usually used for craft projects, or any kind of new and reclaimed wire. Different kind of wire has different dimensions and character. The ideal wire to be chosen is the ones who is thin enough, easy enough to be shaped, but yet strong enough so as not too easy to change form, which will resulted in rigid shape of the object. The wire used in this project is a reclaimed lead wire, which is still in good condition without corrosion.

Recycled newspaper to be used is the ones in good condition, means it is not wet or tore. The newspaper is cut into long strain with certain width. In this project the newspaper is cut into 5-6 cm width.

The wire is being hold by one hand, while the other hand wrapping the wire with the newspaper strain in spiral movement. While wrapping the newspaper strain should overlapped significantly to have certain degree of thickness and stiffness. It is possible to wrap until two or three layers. The wrapping process use water base glue to unite the strain.



Picture 6. Newspaper strain wrapped around the wire as the core (photo courtesy Irena VG Fajarto)

The strain could then be shaped in many forms either by hand or by using tools like pencil, spoon handle, etc. Using different kind of tools could resulted in many interesting shapes.

As this strain is going to be an element of weaving an object it is important to control the measurement of the shape, form and pattern. Without this the shape of the resulted object will be untidy .



Picture 7. Strain forming using hand (photo courtesy Irena VG Fajarto)



Picture 8. Strain forming using handle of a spoon (photo courtesy Irena VG Fajarto)

The object being made in project is a basket. The students create varied of interesting shapes using many technique. The process of making one of them is shown below.

Newspaper strain is formed by hand in 'U' pattern of about 1,5 x 1,5 cm²



Picture 9. Newspaper strain is worked by hand to form 1,5 x 1,5 cm² 'U' shape (photo courtesy Irena VG Fajarto)

The strain is bent as such to create the basic form of the basket. The basket dimension will be around 20 x 20 x 20 cm³. Create several strains in this shape as needed. For this basket 16 strains is needed



Picture 10. One strain is bent as such, ready to be weaved into a basket (photo courtesy Irena VG Fajarto)

The formed strains is woven as shown in the picture to create a strong base of the basket. The base is one of the critical part of a basket, as it has to be able to hold the content. It is also the base which hold the shape of the square basket.



Picture 11. The base of the basket is woven by interlacing vertical and horizontal in a basic one on one weaving pattern (photo courtesy Irena VG Fajarto)

After weaving the base of the basket, the walls of the basket are strengthened by weaving a straight newspaper strain. Critical parts which have to be strengthen is the area near the base, the middle part and the top part.



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Picture 12. Vertical strain is woven in the area near the base to strengthen the shape and the structure (photo courtesy Irena VG Fajarto)



Picture 13. Vertikal strain is woven in the middle area to strengthen the shape and the structure (photo courtesy Irena VG Fajarto)

This form the final shape which are quiet strong and have a more three dimensional texture.



Picture 14. Final shape of the basket (photo courtesy Irena VG Fajarto)

Next are other shapes which are made by the students using this technique.



Picture 15. A tube form basket created form 'V' shape horizontal newspaper strain interlacing with straight vertical newspaper strain (photo courtesy Irena VG Fajarto)





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Picture 16. A tube form basket created form 'V' shape vertical newspaper strain interlacing with straight horizontal newspaper strain (photo courtesy Irena VG Fajarto)



Picture 17. A flower form basket (photo courtesy Irena VG Fajarto)



Picture 18. Another form of basket and strain wrapping technique (photo courtesy Irena VG

Fajarto)

V. CONCLUSION

The usage of wire in newspaper strain adding its flexibility and strength at the same time. Interior students experimenting with this technique have been able to create a variety of basket design by using varied strain form and interlacing method.

The result will be transferred within various workshop to enrich urban people in productive age with skill to work using newspaper which is abundant and cheap, to create and sell attractive craft products. Hence, be able to live and increase their income.

This initial research is still open to be continued in the area such as implementing finishing technique to make it more appealing for commercial use, and or experimenting using other material as recycled newspaper substitute.

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