



**1<sup>ST</sup>**  
**ANNUAL**

**- PROGRAM BOOK -**

***ICLBI***  
INTERNATIONAL CONFERENCE ON  
LOGISTIC AND BUSINESS INNOVATION

**SEPTEMBER, 26 - 28 2018**  
**BALI, INDONESIA**

# ICLBI 2018

International Conference on  
Logistic and Business Innovation

26-28 September 2018  
Bali, Indonesia



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ISSN: 2518-6841

KNE Publishing  
Office 4402, X2 Tower, JLT, P.O. Box 488239, Dubai, UAE  
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## **| Preface**

It is our great pleasure to welcome you to the first International Conference on Logistic and Business Innovation, in Bali Indonesia. This conference is organized by Supply Chain Research Center and Customer Behavior Research Center, Petra Christian University and collaborate with School of Engineering Bina Nusantara University, Indonesia. The conference purpose is to enhance collaboration of researchers in supply chain and customer behavior area.

The organizing committee would like to thank all authors for their contribution and all reviewers who spend their precious time and effort to give some valuable comments to improve the quality of the papers. The organizing committee would also like to address appreciation for some supports from Center of Research and Community Service Petra, and Continuing Education, Petra Christian University to make this conference run well. We also want to thank all organizations and personnel who support the conference and make it happen.

We hope all participants will enjoy the conference, get some ideas from the deep discussion, have new research collaboration to enhance researches on Supply Chain and Customer Behaviors and enjoy Bali. For the next conference, it is an open collaboration with some institutions and individuals who have the same purpose and vision to bring new innovation in business and supply chain to the next level.

**Gede Agus Widyadana**  
**Conference Chair**

## ***Schedule of Events***

### **First Day**

08.00-08.45	Registration
08.45-09.00	Opening Ceremony
09.15-10.40	<b>Professor Béla Pukánszky</b> <b>Professor Sunaryo</b>
10.40-10.55	Coffee Break
10.55-11.05	Photo Session
11.05-12.00	<b>Emeritus Professor Walter Bradley</b>
12.00-13.30	Lunch
13.30-15.30	<b>Parallel Session 1</b>
15.00-15.15	Coffee Break

## Second Day

09.00-10.40	<b>Parallel Session 2</b>
10.40-10.55	Coffee Break
10.55-12.35	<b>Parallel Session 3</b>
12.35-13.35	Lunch Break
13.35-15.05	<b>Parallel Session 4</b>
15.05-15.10	Coffee Break
18.30-21.00	Gala Dinner

## Third Day

08.30-19.00	Bali Tour: (Optional)
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# ***Schedule of Events***

## **Session 1**

**Wednesday, September 26, 13.30-15.30**

<b>Ruang Nutmeg</b>	
<b>1</b>	<b>Cooperative Game-Theory Model for Lease Equipment Based Penalty Contract</b> <i>Bayu Nur Abdallah, Nani Kurniati, Erwin Widodo</i>
<b>2</b>	<b>Logistics and Supply Chain Engineering: Perspectives on Paperless System for Gardu Tol Otomatis (GTO) through Industry 4.0</b> <i>Khristian Edi Nugroho Soebandrija, Gatot Suharjanto</i>
<b>3</b>	<b>Design for Vendor Profile Data Management Improvement Solution in DIM Procurement PT. X</b> <i>Tanti Octavia, Ong Merryana Pranata</i>
<b>4</b>	<b>The Role of ERP in Improving Organization's Intellectual Capital</b> <i>Priskila Adiasih, Saarce Elsy Hatane, Shendy Christyanto</i>
<b>5</b>	<b>Library Interior Design for Digital Native Generation</b> <i>Felecia, Siana Halim, Lintu Tulistyantoro, Dian Wulandari</i>
<b>6</b>	<b>Customer Behavior Analysis on Cosmetic Product Purchase</b> <i>Hatane Samuel, Juliana Wijaya</i>
<b>7</b>	<b>Business Innovation and Service Innovation: Perspective on Product Design Engineering in term of User Experience (UX)</b> <i>Khristian Edi Nugroho Soebandrija</i>

# | *Schedule of Events*

## Session 2

Thursday, September 27, 09.00-10.40

Ruang Nutmeg	
1	<b>Strategic Costing Model as Strategic Management Accounting Tehnique in Private Universities of Indonesia</b> <i>Evi Marlina, Hendi Ali Ardi, Siti Samsiah</i>
2	<b>Business Innovation, Service Innovation, Industry 4.0 and Making Indonesia 4.0: Perspectives on Industrial Engineering</b> <i>Khristian Edi Nugroho Soebandrija</i>
3	<b>Designing Ergonomic Study Chair using Quality Function Deployment Method with Anthropometry Approach</b> <i>Arina Luthfini Lubis</i>
4	<b>Analysis Pricelist Update Process of Pricelist Management on DIM Procurement Department at PT. X</b> <i>Katherine Marcella Silvanus Sie, Debora Anne Yang Aysia</i>
5	<b>The Design and The Use of Management Control System in Developing Organizational Learning</b> <i>Saarce Elsy Hatane, Evelin Lesmanaputri, Vanny Lisayani Wijaya, Joan Jesslyn Prajnawati Firman</i>
6	<b>Exploring The Usage and The User Interface of Mobile Apps for Donors in Natural Disaster in East Java, Indonesia</b> <i>Djoni Setiabudi, I Gede A. Widyadana</i>



# Schedule of Events

## Session 3

Thursday, September 27, 10.55-12.35

Ruang Nutmeg	
1	<b>Temperature Control for Plastic Injection Machine: Perspective on Industry 4.0 and Disruptive Innovation</b> <i>David Oenjoyo, Winda Astuti, Agri Suwandi, Khristian Edi Nugroho Soebandrija</i>
2	<b>Design and Development Paper Printout System for Gardu Tol Otomatis (GTO) based on Mechanical Approach</b> <i>Khristian Edi Nugroho Soebandrija, Gatot Suharjanto</i>
3	<b>Simulation Modeling of Dual Warehouse System</b> <i>Cynthia Candradewi, Yu-Siang Lin, Kung-Jeng Wang, I Gede Agus Widyadana</i>
4	<b>Model of Cooperative Game Theory for Lease Contract Based On Usage in Leasing Heavy Equipment</b> <i>Ratna Diah Yuniawati, Erwin Widodo, Bambang Syairrudin</i>
5	<b>Solving a Real Problem in Plastic Industry: A Case in Trimm-Loss Problem</b> <i>Ivan Renata, Siana Halim</i>
6	<b>Purchase Behaviour on Mobile Game Virtual Goods</b> <i>Michael Adiwijaya, Jeremy Limanto</i>

## Session 4

Thursday, September 27, 13.35-15.05

Ruang Nutmeg	
1	<b>An Optimal Inventory Model for a Retailer with Price Dependent Demand and Unavailability Supply</b> <i>Gede Widyadana, Nyoman Sutapa</i>
2	<b>Process Optimization of Friction Stir Spot Welded Aluminium Alloy Using ANOVA</b> <i>Hwi-Chie Ho, Armansyah Armansyah, Juri Saedon, Hasan Hariri, Shahrinan Adenan</i>
3	<b>Small Scale Single-Screw Extruder to Produce 3D-Printing Filament: Perspective on Industry 4.0, Kansei Innovation and Product Design Engineering</b> <i>Evi Andrianto, Sofyan Tan, Agri Suwandi, Khristian Edi Nugroho Soebandrija</i>
4	<b>Updating Hazard Identification, Risk Assesment, And Determining Control (HIRADC) Document. Case Study Schneider Electric Cikarang</b> <i>Christoffer Halim, Jani Rahardjo</i>
5	<b>Inventory Control Application on Indonesia Small Medium Enterprises using Smartphone</b> <i>Andreas Handojo, Michael Christian Wibisono, Agustinus Noertjahyana, Tanti Octavia</i>
6	<b>The Usability of Concept Drift in Process Mining: a case study in Logistics Process</b> <i>Bernardo Nugroho Yahya, Feri Setiawan, Danny Darmawan Harjono, Frans Brail</i>
7	<b>A Systematic Review of 3PLs' entry into Reverse Logistics</b> <i>Locadia Linda Tombido, Louis Louw, Joubert van Eeden</i>

# Library Interior Design for Digital Native Generation

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**Abstract**– Digital native held information in their hands through the gadget. Previous research to 460 respondents in 6 university libraries in Surabaya shows that overall quality of the library is excellent. However, it does not encourage them to come to the library. Therefore Library needs to facilitate digital native needs by repositioning as a community hub, a place where community interact, collaborate and learn. The library can also apply a hybrid library concept by adding digital collection through subscription or repository. Findings from previous research show that there are facilities need to be prioritised to encourage digital native to come: Common rooms, discussion rooms, and books that support students academic needs. These facilities are re-arrange as a new library interior design.

**Keywords:** Library interior design, digital native, community hub, hybrid library

## Introduction

Digital native generation has different characteristic and traits compared to the previous generation. They are digitally literate, connected, enjoying social interaction with their community, working in a team, immediate, experiential, visual and kinesthetic. (Oblinger, 2005). Lower library visit in the last decades shows that Digital natives generation has different needs to be facilitated. Research in 2015 to 460 respondents in six universities in Surabaya shows that Library quality is excellent (average score 5.78 to 7), but this did not make them come to the library (Halim et al., 2015a). The library needs to repositioning as a community hub where people can meet, interact, collaborate and learn Halim et al. (2015b). Hybrid library concept might be suitable for digital natives generation. The hybrid library has a web-based IT rich with colour and picture, leisure reading room, hi speed wifi, and information literacy training.

Further research in 2016 is done to know which library facilities need to be prioritised (Halim et al. 2016). It is found that leisure room, discussion room, and books that required for university study is significant for the students. Therefore in 2017, the research continued with facility layout design for these prioritised facilities. Four university libraries in Surabaya (Petra, Ubaya, UPN and ITS) have similarities: more than two floors available and each floor has specific function. The area inside the university library functions as administrative, book collections, audiovisual and reading or discussion.

The result for a facility layout prioritise leisure reading area closer to the library entrance access and moves book selves further back. In the future, more physical books will be replaced with digital collection books so the library can have more area for community hub.

## **Methodology**

This research goal is to design university library interior design for native digital generation based on the result from 2017 research. Methods used in the research include an interview to students as the user of the four university libraries and questionnaire to know how digital literate, library current condition, and what digital natives want for their future library. Benchmarking also has done to other libraries in Jakarta and Singapore. The information will be used to design each university library interior design.

The interview is done to five to ten students from each university to understand their background, digital lifestyle, library usage, and opinion about the current library. The result will be an input to design the questionnaire questions. The questionnaire will collect more detail information on necessary respondent information, study characteristic, smartphone usage, teamwork, first interior elements preference. All questionnaire result will be analysed statistically to know each university students preference for their university library design. Benchmark to other libraries will be done to know how they attract native digital generation to come to the library, the facilities provided and the interior design. Benchmarking is done to the National Library in Jakarta, Library at Orchard in Singapore, and National University Library in Singapore.

## **Findings**

Findings from respondents interview in ITS shows that they visit the library two to three times each week. Students are working together on their homework or just relaxing in the library. They use a mobile phone for more than eight hours. Therefore, they use to study. ITS students also prefer to use e-books because it is more convenient to carry. They need wifi, electric plug, and convenience relaxing area inside the library. Bright colours in library corners will attract these students to come to the library. UPN students visit library two to three times a week to find references, do their homework and read books. They also bring their gadget and laptop, so they only need electric plug and wifi access. They prefer natural colours to support their dynamic and static needs in the library.

Students from Ubaya give did not visit the library often due to its lack of facilities and exciting design. They find it annoying and the area is too crowded. In the future they expect Ubaya library to be more dynamic with natural colours to support their study and relaxing. They have similar facility

needs to their friends from ITS like wifi and electric plug. High mobile phone usage also makes them prefer e-books for study.

Petra students only visit the library to wait for the next class, work on homework and meet their friends. They bring their gadget or laptops, so they need more electric plug and wifi access. They still prefer the physical book because more flexible and comfortable for their eyes. Petra students like a calm, quiet area with natural colours to help them focus.

Questionnaire data is collected through convenience sampling to students from four universities: 29% from Petra, 26% from ITS, 25% from Ubaya, and 20% from UPN. The research collects necessary respondent information, study characteristic, smartphone usage, teamwork, first interior elements preference. Findings on necessary respondent information that three out of four universities have more than half students coming from Surabaya and surrounding cities. They use a motorcycle to go to campus and have IDR 500.000 to IDR 1.000.000 pocket money every month.

Findings of respondents Learning style shows that three out of four students have minimum one textbook for their study. They also depend on the material given by the lecturer (handouts and notes). Ubaya students are also browsing the internet to find more study material.

Students digital natives characteristic shown from their interaction with their peers is not only direct interaction but also using social media. They only have limited good friends, only one to five, with whom they can share their thoughts and feeling. Social media application usage dominate their smartphone (58%), and they have start use smartphone since junior high school. Some interesting findings that not all students enjoy working as a team, some prefer to work individually.

There is five information about basic interior design: line, two-dimensional form, three-dimensional form, colour and texture. Findings from this research show that students prefer strong lines (58%), gradient colour (81%), clean look texture (72%) and round form (45%).

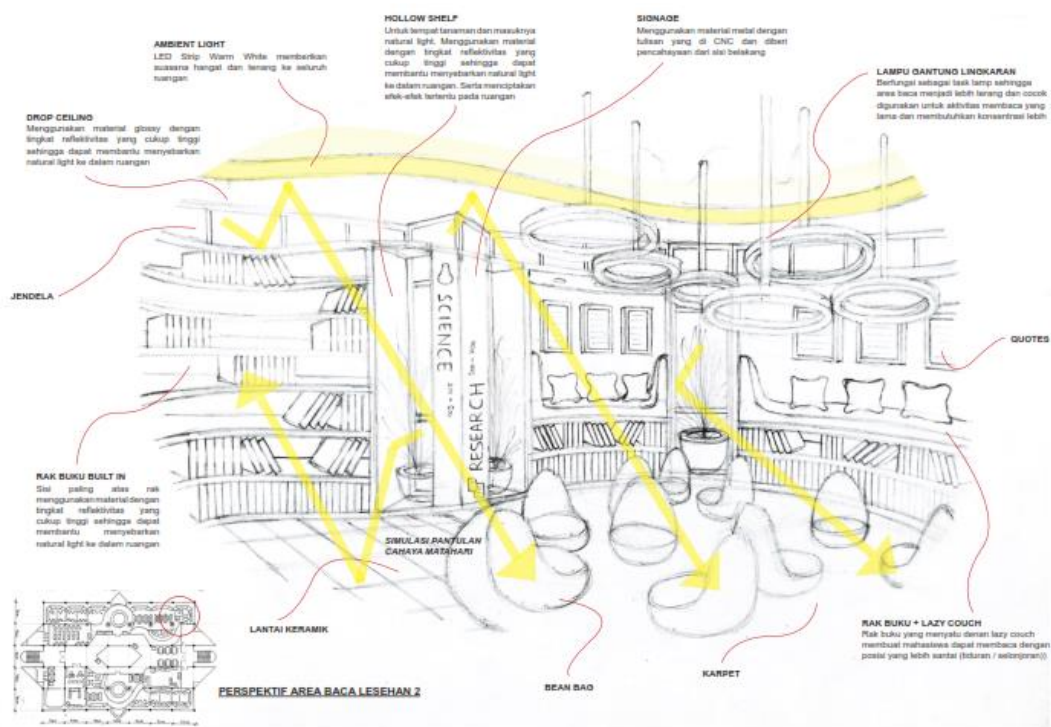
Tabel 4.1 Crosstab three dimentional form

		Three dimensi*					Total
		cube	Beam	tube	cone	ball	
University	ITS	8,82%	6,86%	1,96%	3,92%	4,9%	26,46%
	UKP	5,88%	2,94%	3,92%	3,92%	12,75%	29,41%
	UPN	12,75%	2,94%	1,96%	0,98%	0,98%	19,61%
	Ubaya	8,82%	0%	6,86%	2,94%	5,88%	24,5%
	Total	36,30%	12,70%	14,70%	11,80%	24,50%	100%

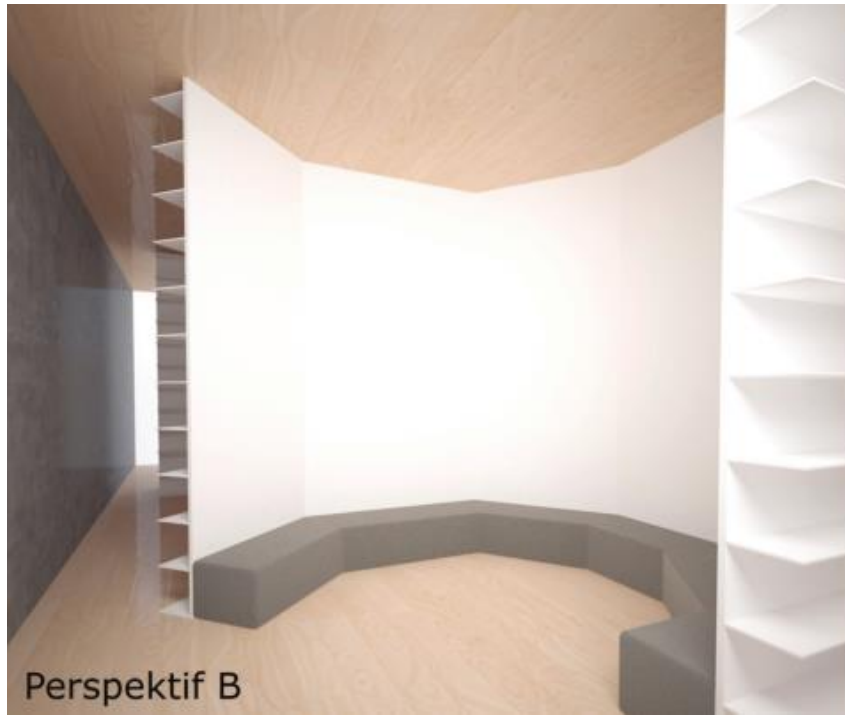
\*p.value = 0.07 (Pearson Chi-square test)

Benchmarking to National Library in Jakarta shows that public library interior design has started to accommodate native digital needs by having multimedia areas and modern, colourful interior design. They also provide more open reading areas with comfortable seatings, wifi and a good view. Library in Singapore has more modern design and use more technology in their library system. The technology helps them in book borrowing and returning. Book and magazine shelves also specially design to an optimised limited storage area. The reading area also carefully design so the visitor can choose a more individual reading area or common area.

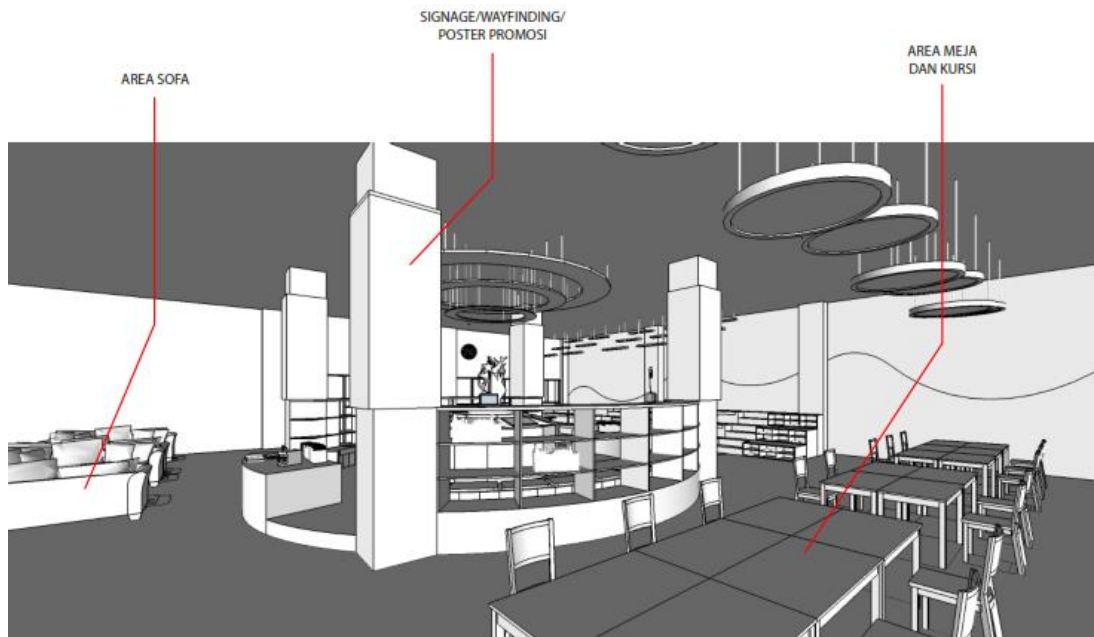
All information from the interview, questionnaire and benchmarking are analysed and used as input to design each university library.



Picture 1. ITS library interior design



Picture 2. UPN library interior design



Picture 3. Ubaya library interior design



Picture 4. Petra library interior design

## Conclusion

Library interior design for a digitally native generation will have a clean, modern look with more space for leisure and functional shelves for books and other printed material. University library will transform itself into a place for students to meet, discuss and collaborate. The textbook will still be available and arrange in more functional shelves, but most of them also will be transformed into an e-book which can be accessed from everywhere. Comfortable discussion area, wifi connection, and the electric plug will play the vital role to attract students to come to the library. Therefore library will still be an exciting place to visit by students if it is positioned as a community hub.

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