Product-Service Business Concept Design: Real-world Case of a Small Furniture Manufacturing Firm

Yong Se KIM Sungkyunkwan University, Korea

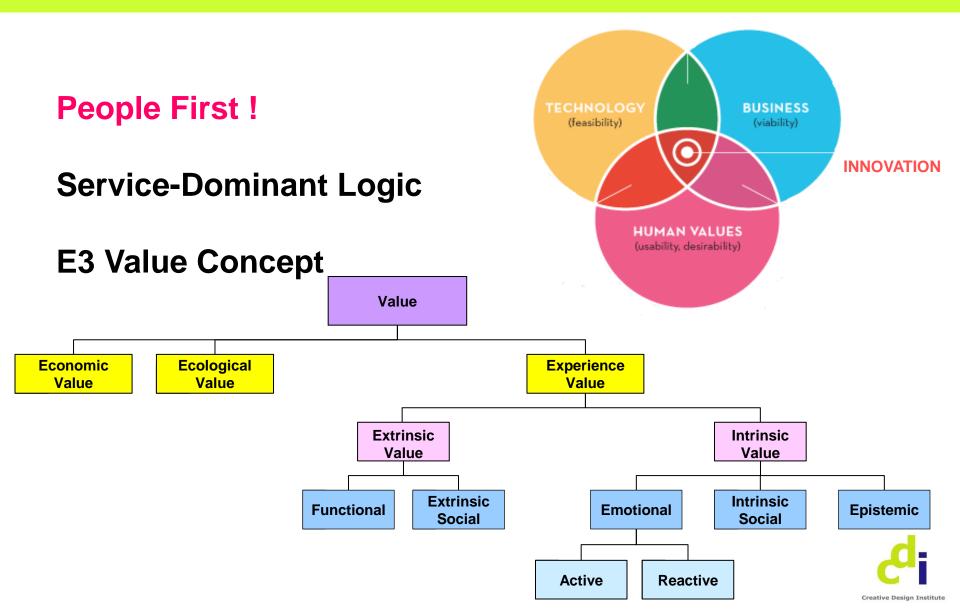


Creative Design Institute

Product-Service Systems

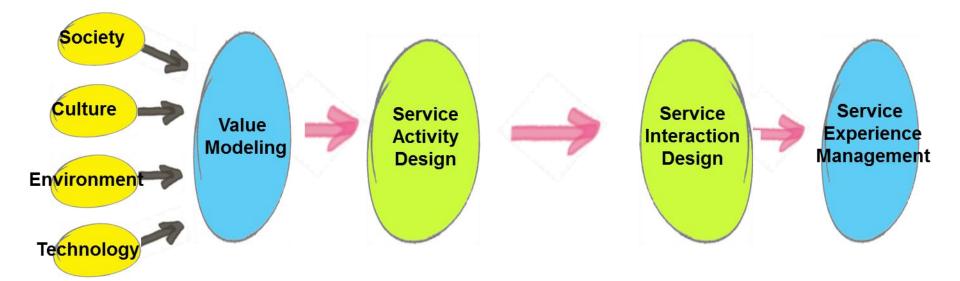


Product-Service Systems



Service Design

[Y. S. Kim]



Service Design Process

- Modeling Diversity of Values (E3 values)
- Activity Design with consideration of Various Context Elements
- Service Interaction Design with care on Touchpoints
- Stakeholder Experiences Assessment and Management

Evolutionary Development of Service Designing



Product-Service Systems (PSS) Design Project

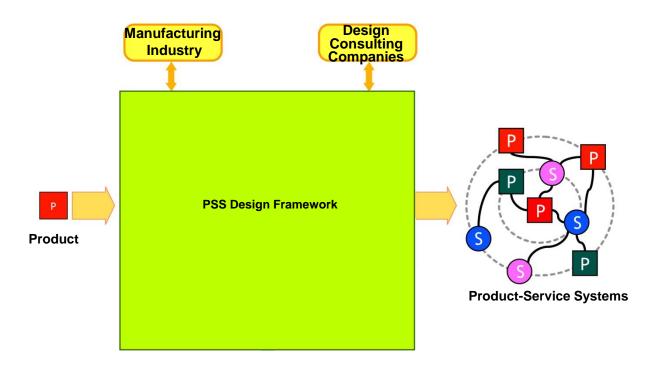
Supported by Korean Ministry of Knowledge Economy 2008 - 2013

Theme

Integrated Design + Product-Service Systems + Intelligence

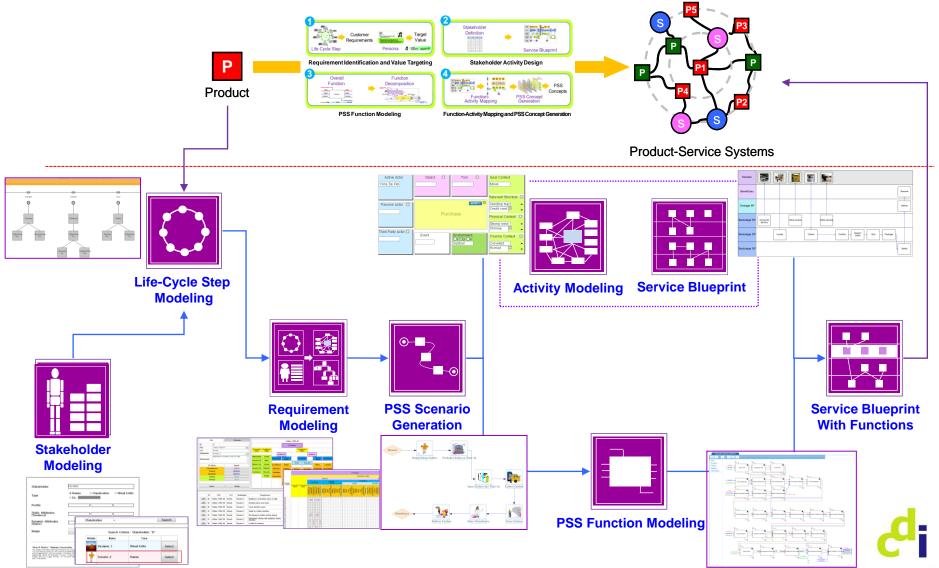
Research

- **PSS Design Strategy Design**
- **PSS Design based on Use Information**
- **PSS Design Process Innovation**
- Intelligent PSS Design Framework





Design Support Tools for PSS



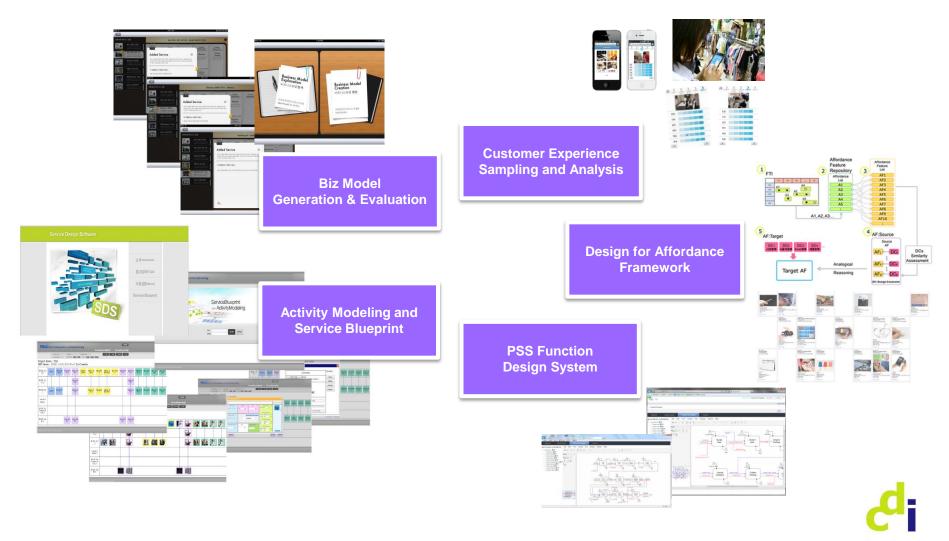
Creative Design Institute

Service Design Software

http://servicedesignsoftware.com

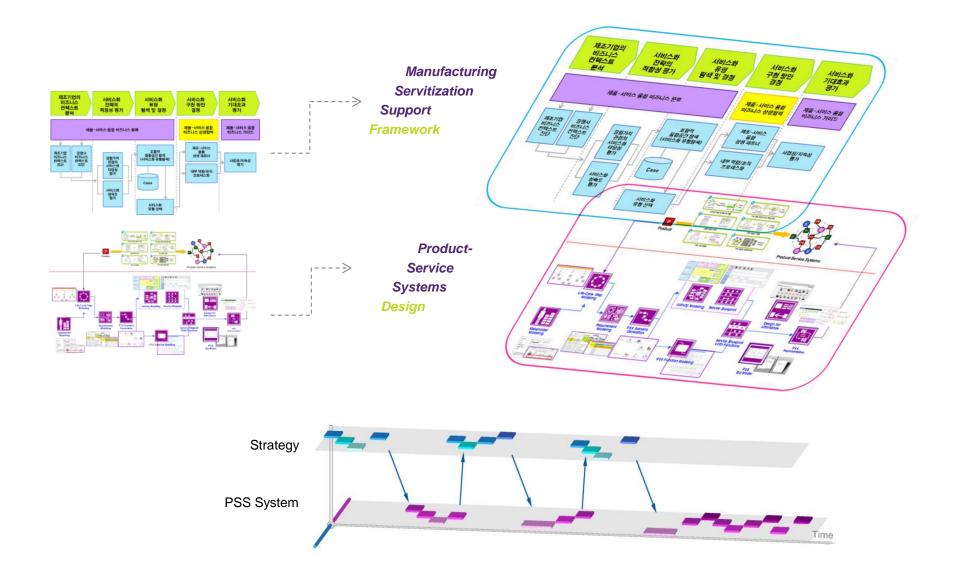


Product-Service Systems Design Software

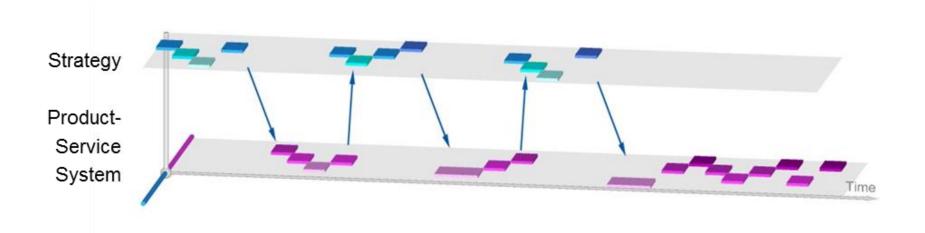


Manufacturing Servitization Support Framework

Supported by Korean Ministry of Industry, Trade and Energy 2013 - 2016



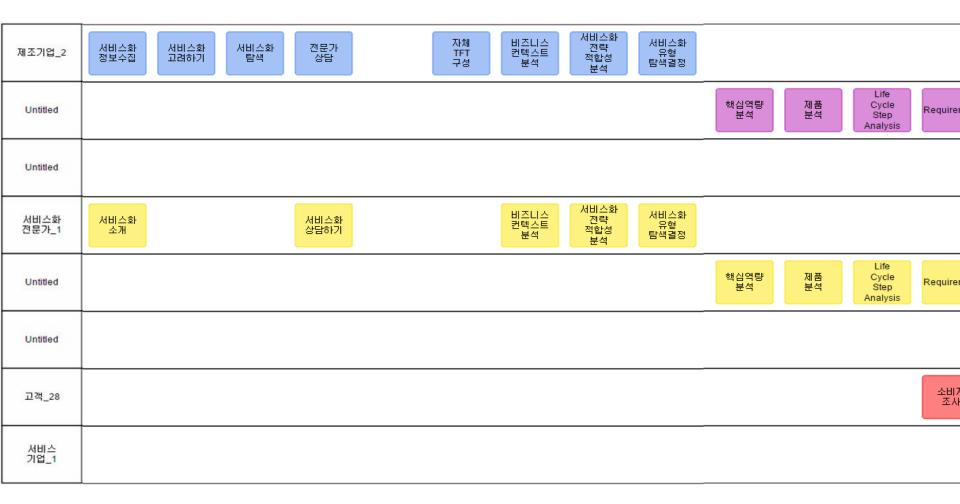
Double-Deck Servitization Process





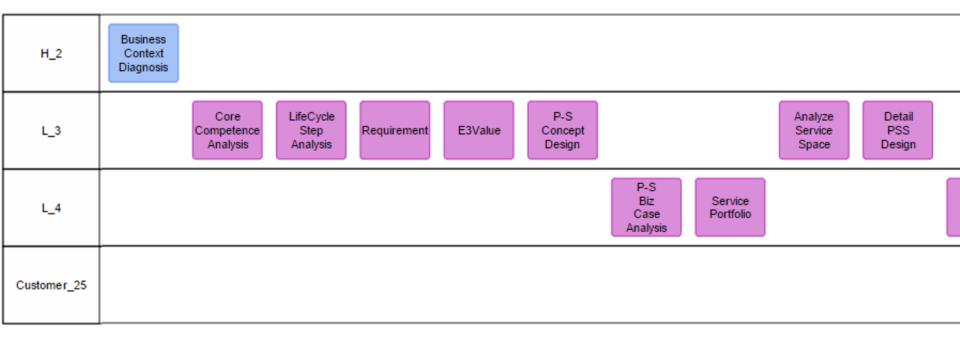
Servitization Process

High-Level Strategy and Low-Level Product-Service System Design



Servitization Process

Small Furniture Company Top Plan DNC



Top Plan DNC Business Positioning

- ┃ 경기도 남양주시 화도읍 가곡리
- 설립: 2007년, 매출액: 20억원 내외, 직원수: 15명 (생산 10, 디자인 3, 총무/관리 2)
- 사업 개요: 가구 디자인/설계, 가공/조립, 도색, 설치
 주요상품: 패션 브랜드 매장에 사용되는 주문형 디스플레이 가구 (진열장)
 핵심역량: 신속 현장 세팅 공정, 디자인 및 시공, 신속 제작 (필요시 매장에 직접 설치)
 니즈: 비수기를 활용한 디자인 인력(대표 포함 4명)의 역량 활용에 대한 니즈 강함



Business Context Diagnosis of Top Plan DNC

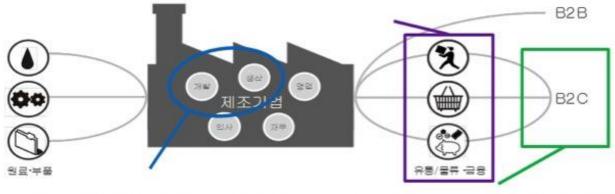
Fashion Store Furniture Manufacturer





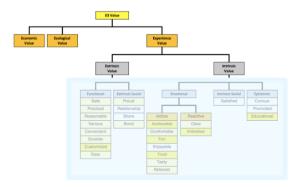


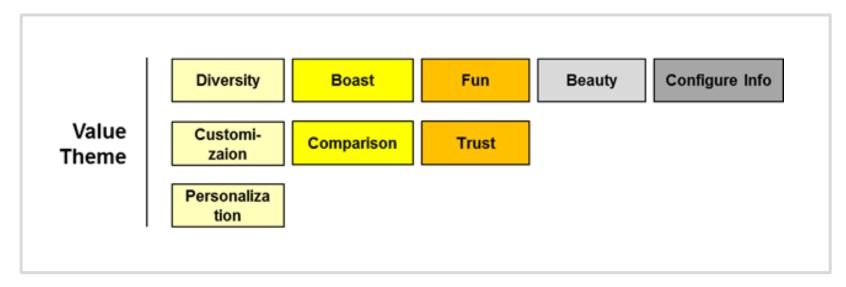
Weak Customer Channel



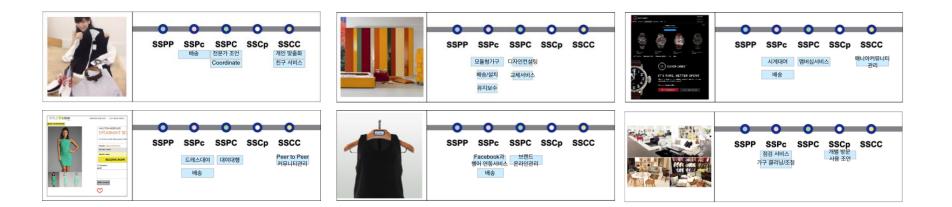
- Design/Installation Capability · Customization Needs
- Off-Season Needs

Value themes

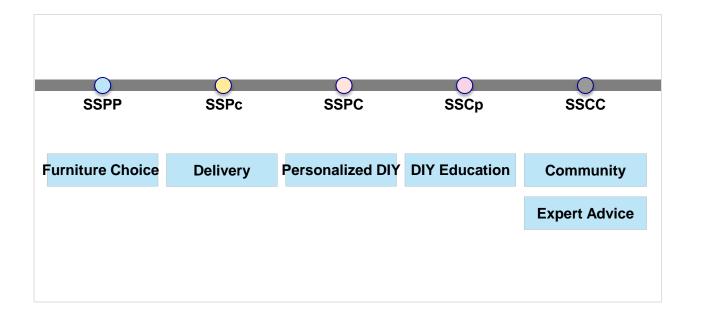




Service Space of Personalized DIY



Service Space of Personalized DIY





Service Brand Identity

"Make Your Own Customized Happiness"











Journey Map



Service Blueprint of Personalized DIY

FAMILY-Mom_1 Receive Circular Discuss to Selection Complete to Selection Apply to Selection Apply to Selecti									
FAMLV-Men_1 Receive filter Complete filter Apply to participate Beard filter Care filter Hear filter Tour of the participate Receive filter FAMLV-Father_1 Image: Seed filter I	FAMILY-Child_1		to Item Select Collection			Board Car	at Carpentry	Program Eastern	Receive Guidance Tr DIY on Ou Guide Color Color
FAMILY-Father_1 Discuss Complete Set Lecation Search Lecation Drive Arme and Shop Greet Familes Tour Peoplet Shop Tour Color Tour Buily Color Could Color Owner_1 Image: Complete Selection Space Allocation Space Allocation Space Allocation Image: Complete Shop Tour Peoplet Shop Tour Peopleoplet Shop Tour Peoplet Shop Tour Peopl	FAMILY-Mom_1	R	Receive to Item Circular Select Collection	to		Board Car	at Other Carpentry Compiler	Program Fastory	Receive Guidance DIY on Guide Color
Owner_1 Cover Receive Space Space Provide Provide Owner Expert_1 Image: Cover	FAMILY-Father_1		to Item Select Collection			Search Location Drive	at Other Carpentry Familian	Program Description	Receive Guidance DIY on Guide Color
Expert_1 Staff_1 Designer_7 Make Proposal for Proposal for Proposal for Service Trasmit	Owner_1			Applica	cation Space			Explain Factory	Provide Guidance DIY on Guide Color
Other Make Tools Designer_7 Make Proposal for Furniture Design Image: Construction of the second of th	Expert_1				Cut Timber				
Designer_7 Proposal for Purniture Design Proposal Furniture Back Image: Comparison of the second of	Staff_1				Prepare Tools				
Back Receive Transmit Inform	Designer_7	Proposal for Furniture							
	Back Stage Staff_1	Make Circular		Receive Transi Participaiton Applica	cation		Location		



Prototyping







Context-specific Experience Sampling and Analysis

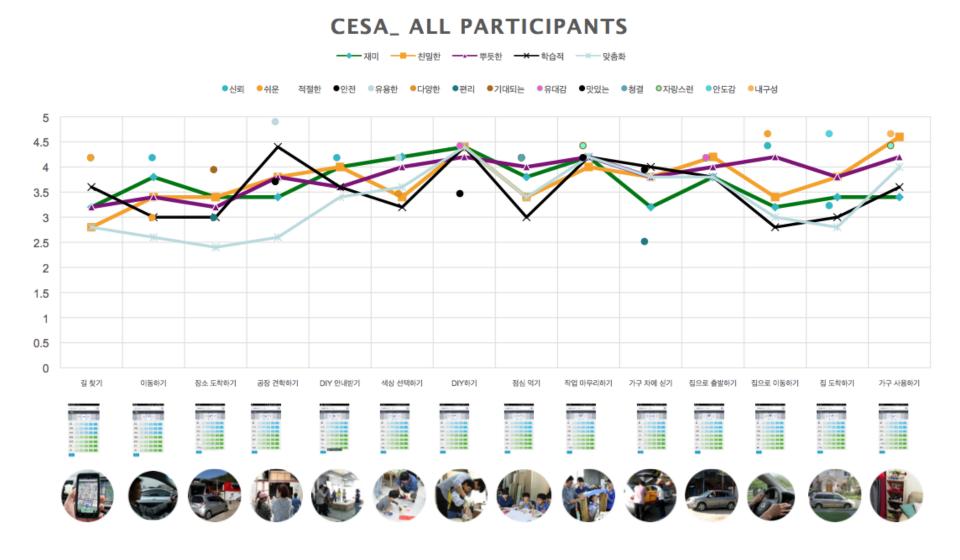


Context-Specific Experience Sampling & Analysis

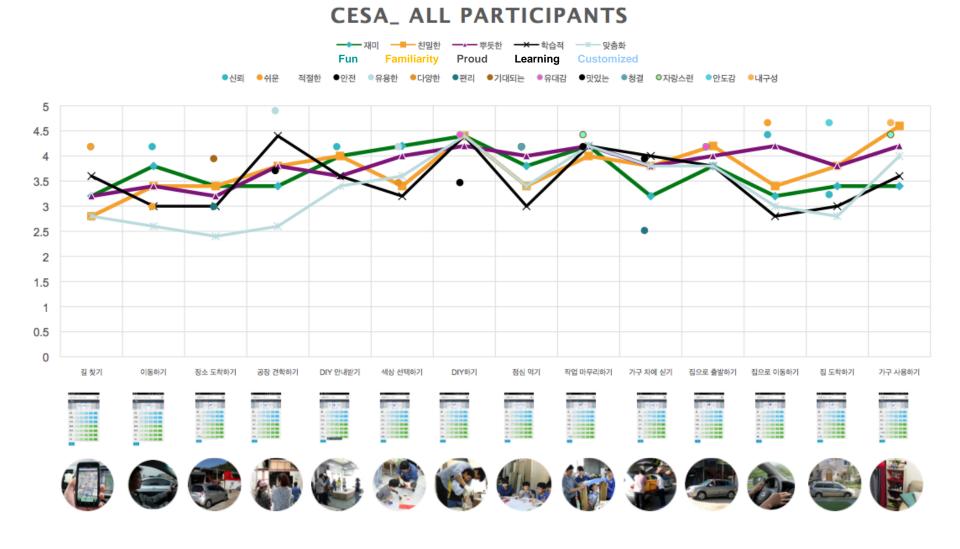




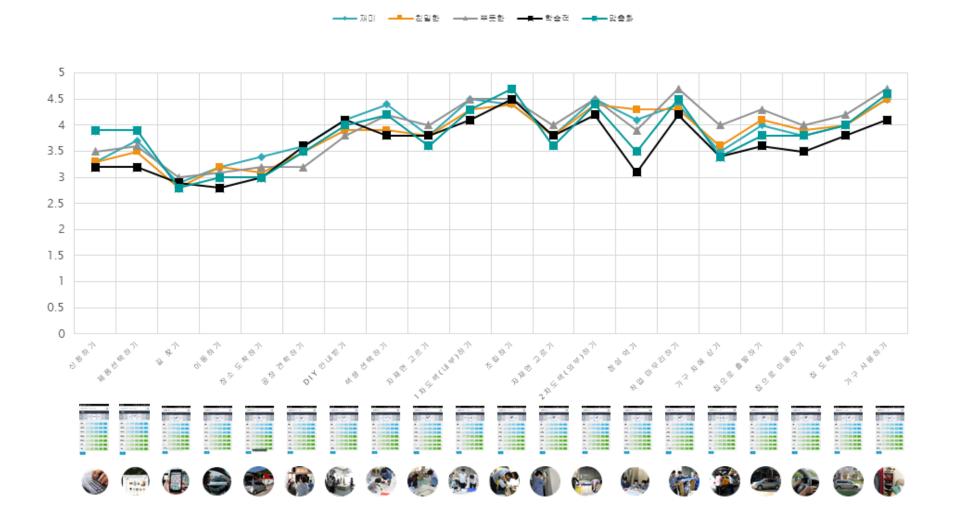
Experience Evaluation



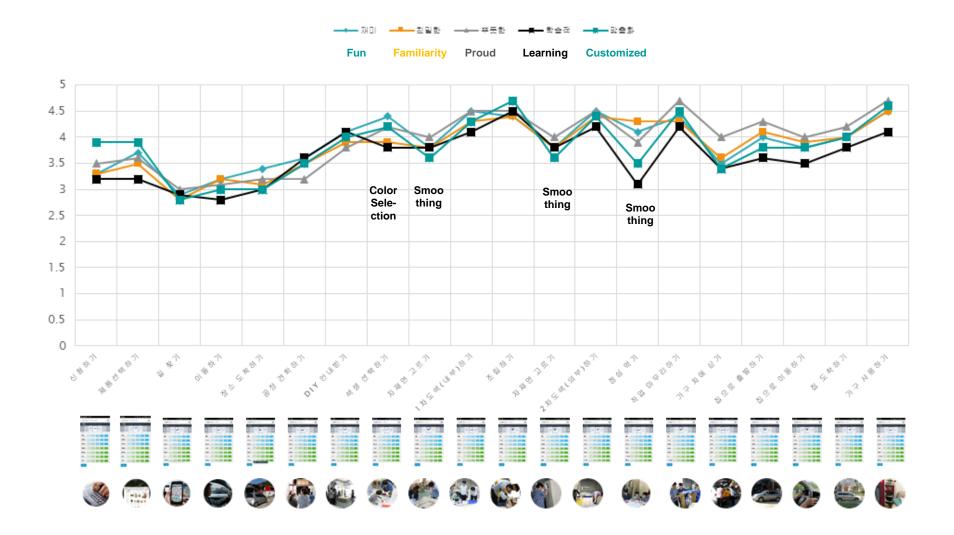
Experience Evaluation



Experience Evaluation of the Second Prototyping



Experience Evaluation of the Second Prototyping

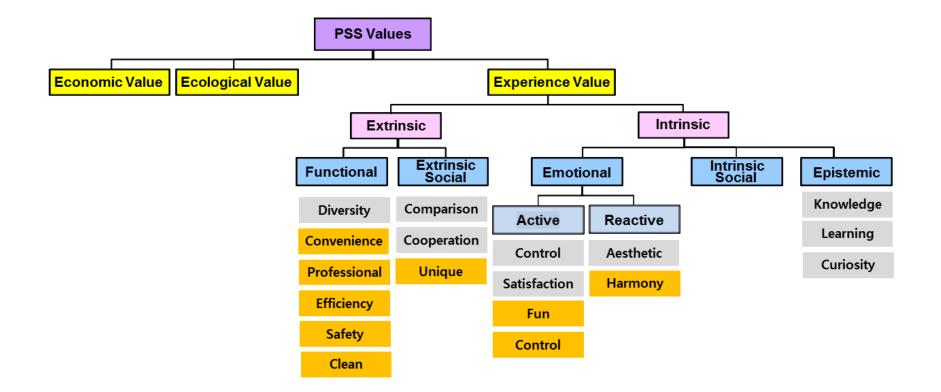


Color Selection



Creative Design Institute

E3 Values for Color Selection Service





Service blueprint

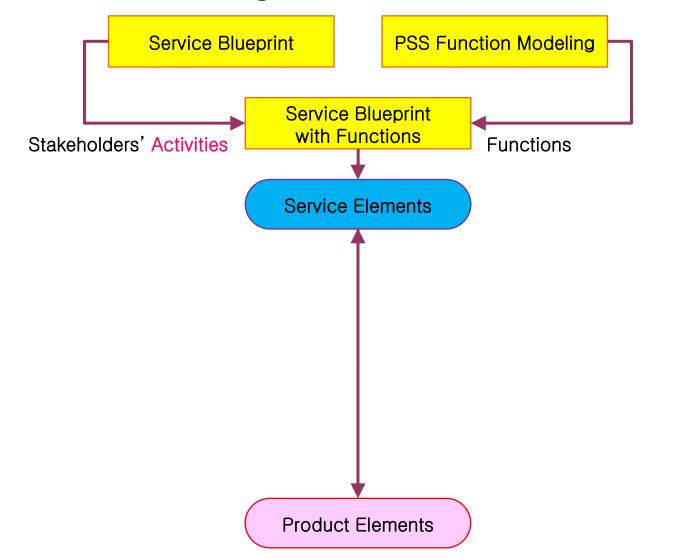
DIY Participant_1		to my c	Listen coloring scription	e my Match color color	Ask question Comment	Take out paint, tools Place tools,paint on ina bowl Pour paint ina bowl
Color expert_1	Check Fill Allocate condition in color of tool stations	Guide color station	Explain color bitu of particip home-in	e Show Show color matching ant palette color	Answer question Give a comment	
Function	Provide convenient preparation	Provide painting process	Provi pain colo consul			Provide customized color





[ServDes 2012]

Framework for PSS Design

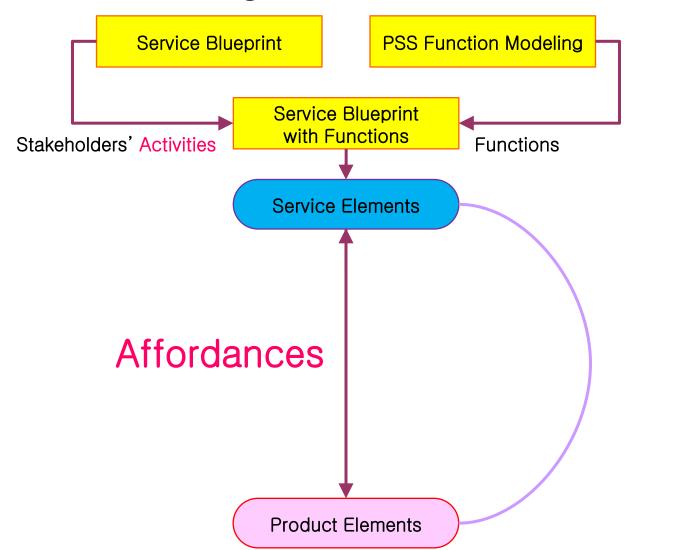






[ServDes 2012]

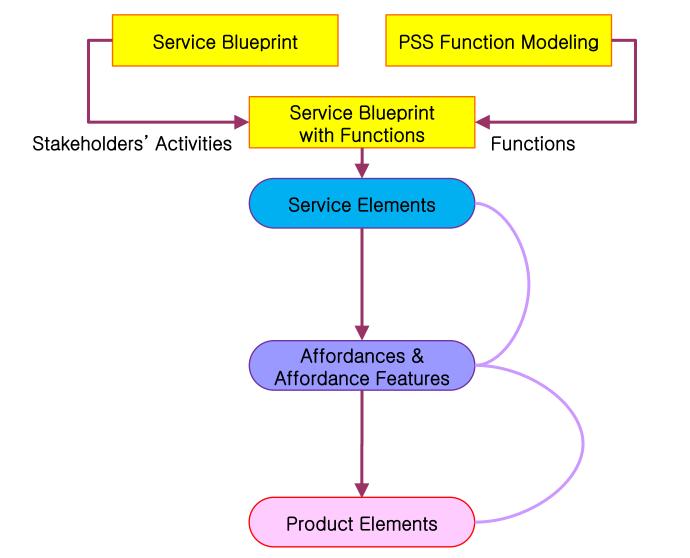
Framework for PSS Design





PSS Design Using Affordances

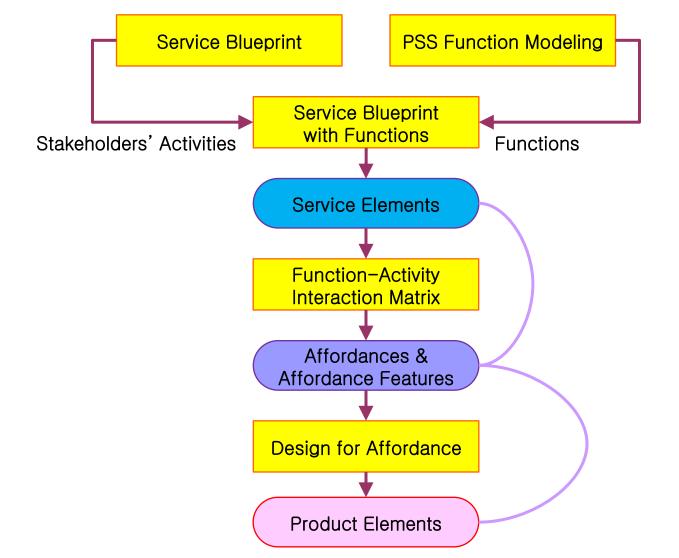
Framework for PSS Design with Affordances: Service Driven Approach





PSS Design Using Affordances

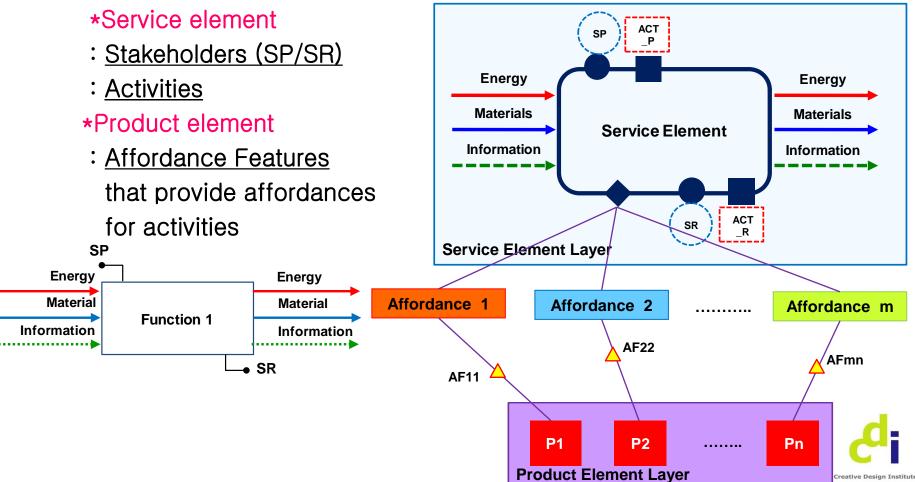
Framework for PSS Design with Affordances: Service Driven Approach





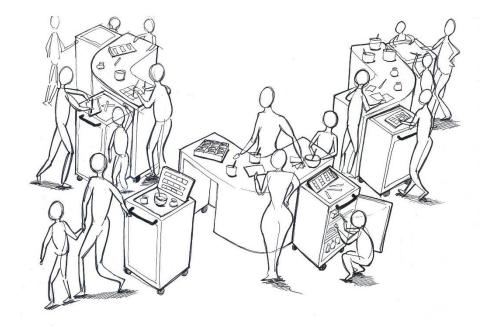
PSS Design Using Affordances

- Scheme of PSS Representation
 - PSS Function & PSS Structure
 - PSS Structure: Service elements + Product elements



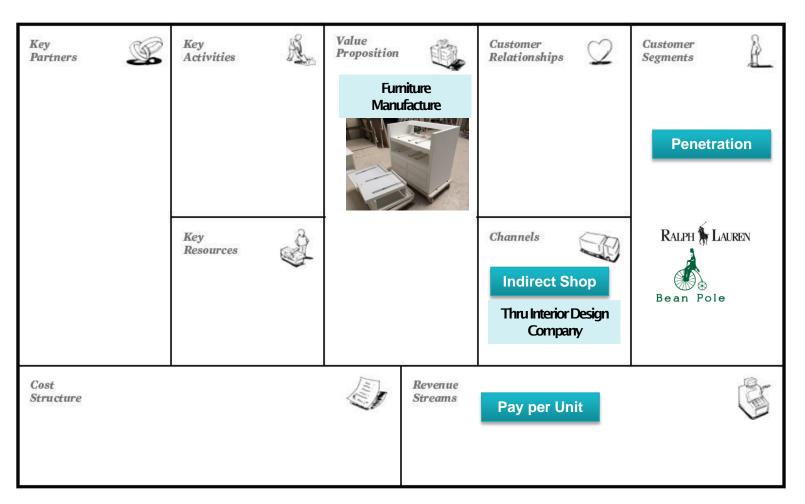
[ICED 2011]

Product-Element Design for Customized Color Selection

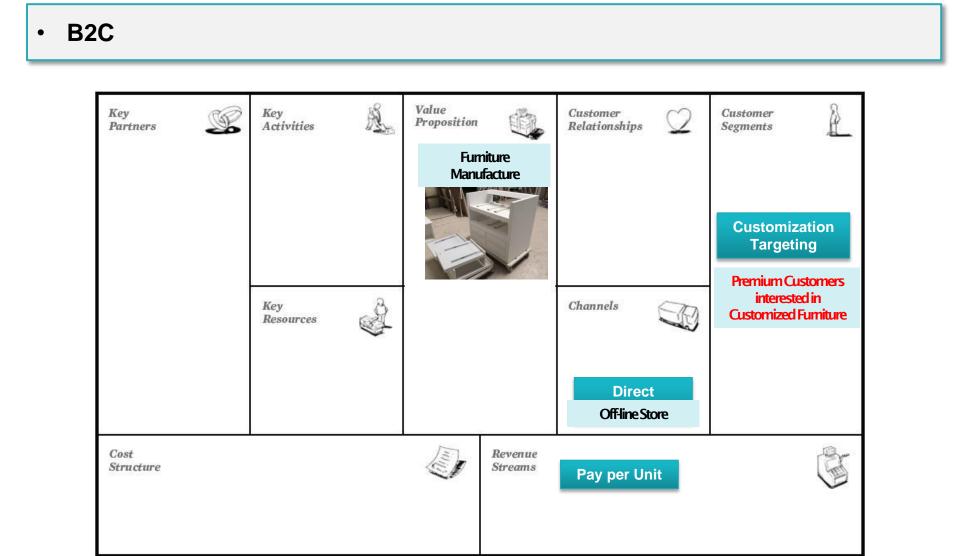


Current Business Model

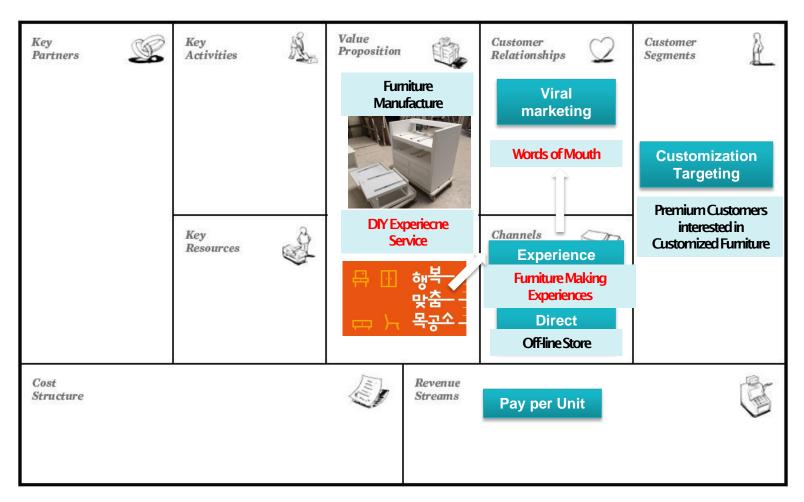
• B2B



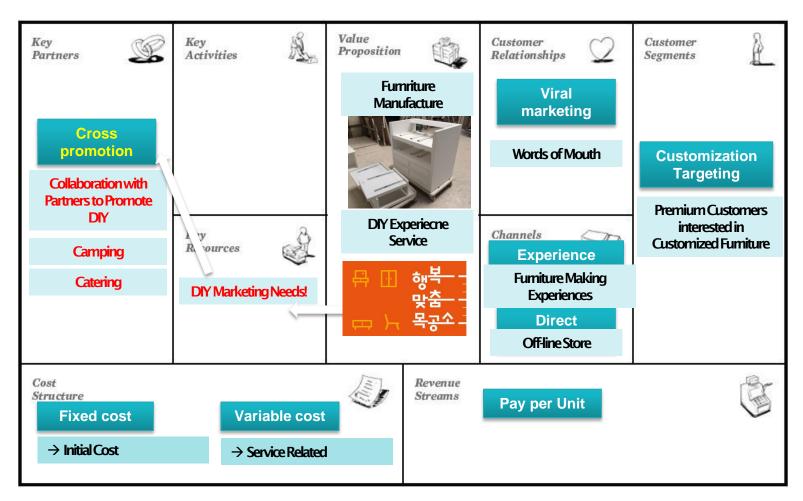
Customized Furniture (Customer Target Change)



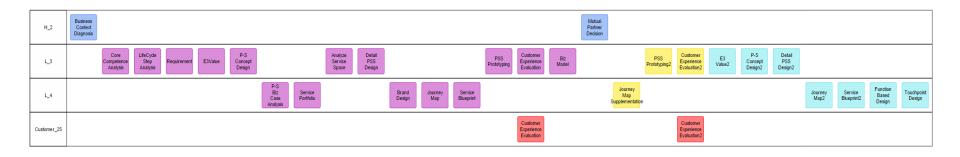
DIY Experience Provision Service



Partnering



Servitization Process of a Small Furniture Manufacturer





Business Launching

ᅲ)~			행 <mark>복-</mark> 맞춤 목공소	
(〕 행복맞촘목공소 행복을 담아내는 DIY 가구 공방 프로필►				
카테고리	~	행복맞춤목공소 안내 (1)	목록보기 요악보기 펼쳐보기	
- 전체보기(45)		행복맞춤목공소 행복맞춤목공소 안	Н	
행복맞춤목공소 신청 - DIY 신청 (1) - DIY 신청 팁 (4)		행복맞춤목공소 2015,03,05 18:38	http://blog.daum.net/happydiy_/2	
행복맞춤목공소 - 행복맞춤목공소 안내 (1) - 주변 볼거리 (3) - 찾아오시는 길 (1)	•			
행복맞춤목공소 DIY - DIY 테마별 (4) - DIY 아이템별 (24) - DIY 과정 (1)	•	VIII V	행복을 담아내는 DIY 가구 공방	
행복맞춤목공소 모습 - DIY 모습 (3) - DIY 가구 활용기 (3)	•		· · · · · · · · · · · · · · · · · · ·	
행복맞춤목공소 이야기 - DIY 가구 생각(0) - 행복맞춤목공소 가구 (0)			<u> </u>	Creative Design Institute

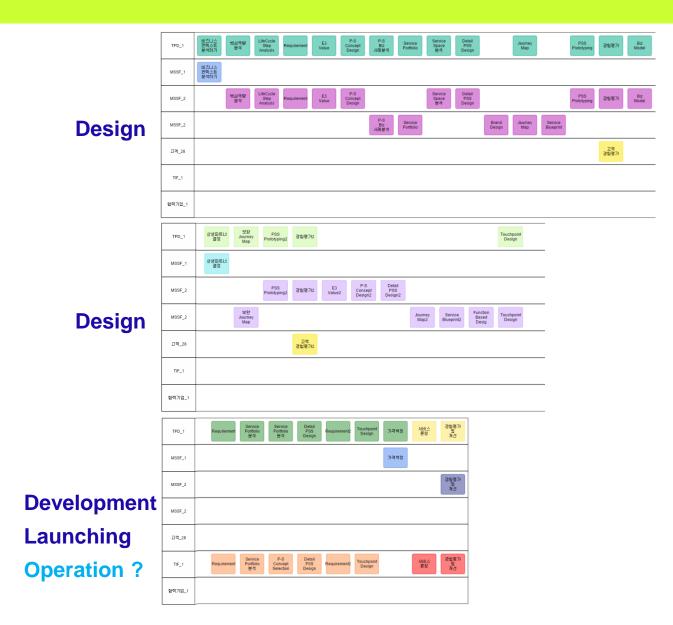
41

Servitization Process: Design, Development, Operation

TPD_1	비즈니스 컨텍스트 분석하기	핵심역량 분석	LifeCycle Step Analysis	Requirement	E3 Value	P-S Concept Design	P-S Biz 사례분석	Service Portfolio	Service Space 분석	Detail PSS Design		Journey Map		PSS Prototyping	경험평가	Biz Model
MSSF_1	비즈니스 컨텍스트 분석하기															
MSSF_2		핵심역량 분석	LifeCycle Step Analysis	Requirement	E3 Value	P-S Concept Design			Service Space 분석	Detail PSS Design				PSS Prototyping	경험평가	Biz Model
MSSF_2							P-S Biz 사례분석	Service Portfolio			Brand Design	Journey Map	Service Blueprint			
고객_28															고객 경험평가	
TIF_1																
협력기업_1																



Servitization Process: Design, Development, Operation





Product-Service Business Design Case

제조업 서비스화를 통한 새로운 비즈니스 런칭 : 행복맞춤목공소



서비스 컨셉



비즈니스 모델 캔버스

Key Partners	Key Activities	Value Proposition	Customer Relationships	Customer Segments
Cross Promotion DIY 이벤트를 제공할 수 있는 업체, 커뮤니티 와의 제휴	DIY 서비스 설계 온라인 마케팅 구축	7)구제작	Viral Marketing 가구제작 체험 서비스 제공을 통한 입소문 효과	Customization Targeting 맞춤형 가구에 관심이 있는 프리미엄 고객
Cost Structure Fixed Cost 서비스화를 위한 초기 투자비용 Variable Cost 서비스 제공과 관련된 재료비, 인간비	Key Resources DIY 서비스 제공 장소	DIY 체험 서비스 형목 구말체험 맞춤 서비스 목공소 ()	Channels Experience Shop 가구제작 체험공간 제공 Direct Channel 오프라인 매장	Revenue Streams Pay per Unit 고객에게 판매한 건수에 따른 수익 발생

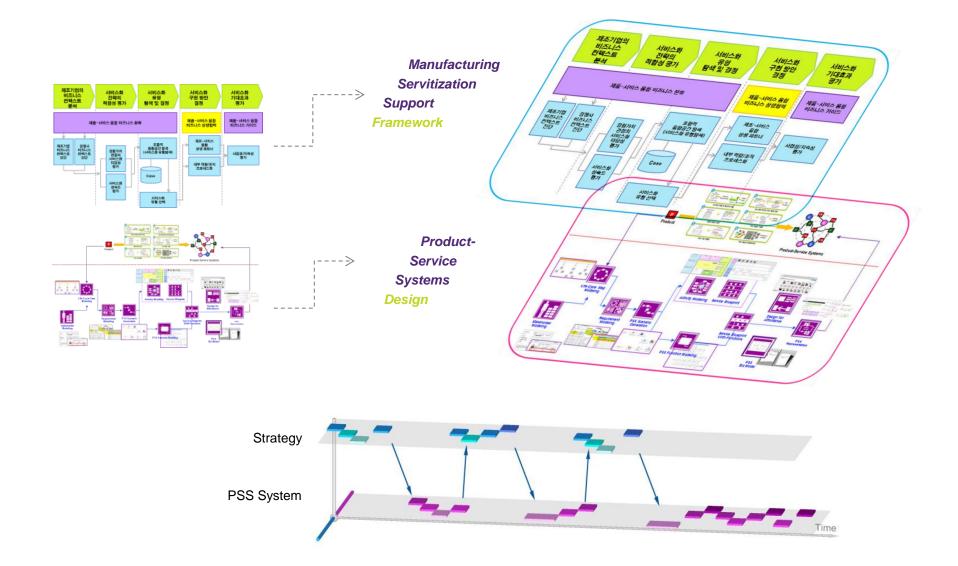
제조업의 서비스화 지원 프레임워크 개발 컨소시엄

facebook.com/pssinno

yskim@skku.edu

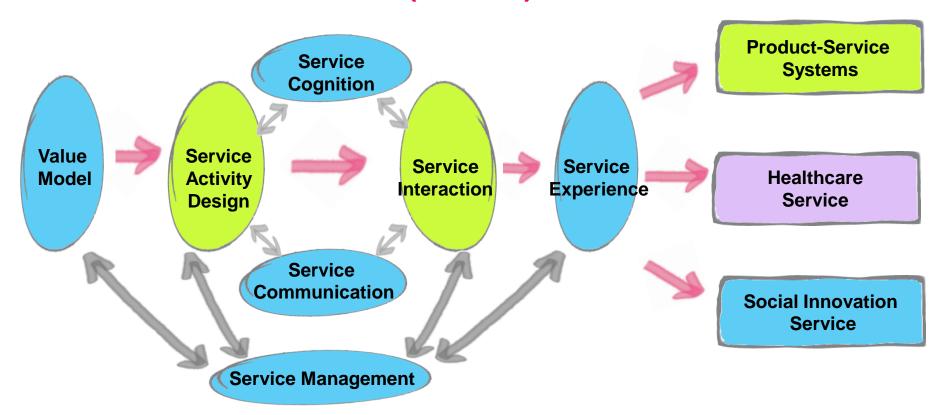
Manufacturing Servitization Support Framework

Double-Deck Servitization Process



SKKU Service Design Graduate Program

(2013 –)





Faculty Members of SKKU Service Design Graduate Program



- Yong Se Kim Activity & Experience Design PhD, Univ. of Stanford
 - Seong II Lee Interaction Design PhD, Univ. of Wisconsin
- Se Hwan Yoon Web/App Design MS, Univ. of Philadelphia
- Woo Hyun Cho Clothing Design PhD, Univ. of Seoul National
- Kee Ok Kim
 Consumer Value Modeling
 PhD, Univ. of Illinois

- Dong Ho Bae Product Servitization PhD, Univ. of Nihon
- Yon Ho Choe Healthcare Service PhD, Univ. of Seoul National
- Joon Seo Lee Interactive Interface Design MPS, New York Univ
- Sung Eun Chung Communication PhD, Univ. of Maryland
 - Won Jun Lee Service Management PhD, Univ. of Indiana



Information: sdi.skku.edu Inquiries: dinstitute@skku.edu

SKKU Service Design Graduate Program

yskim@skku.edu sdi.skku.edu

BK21+



Service Design Institute