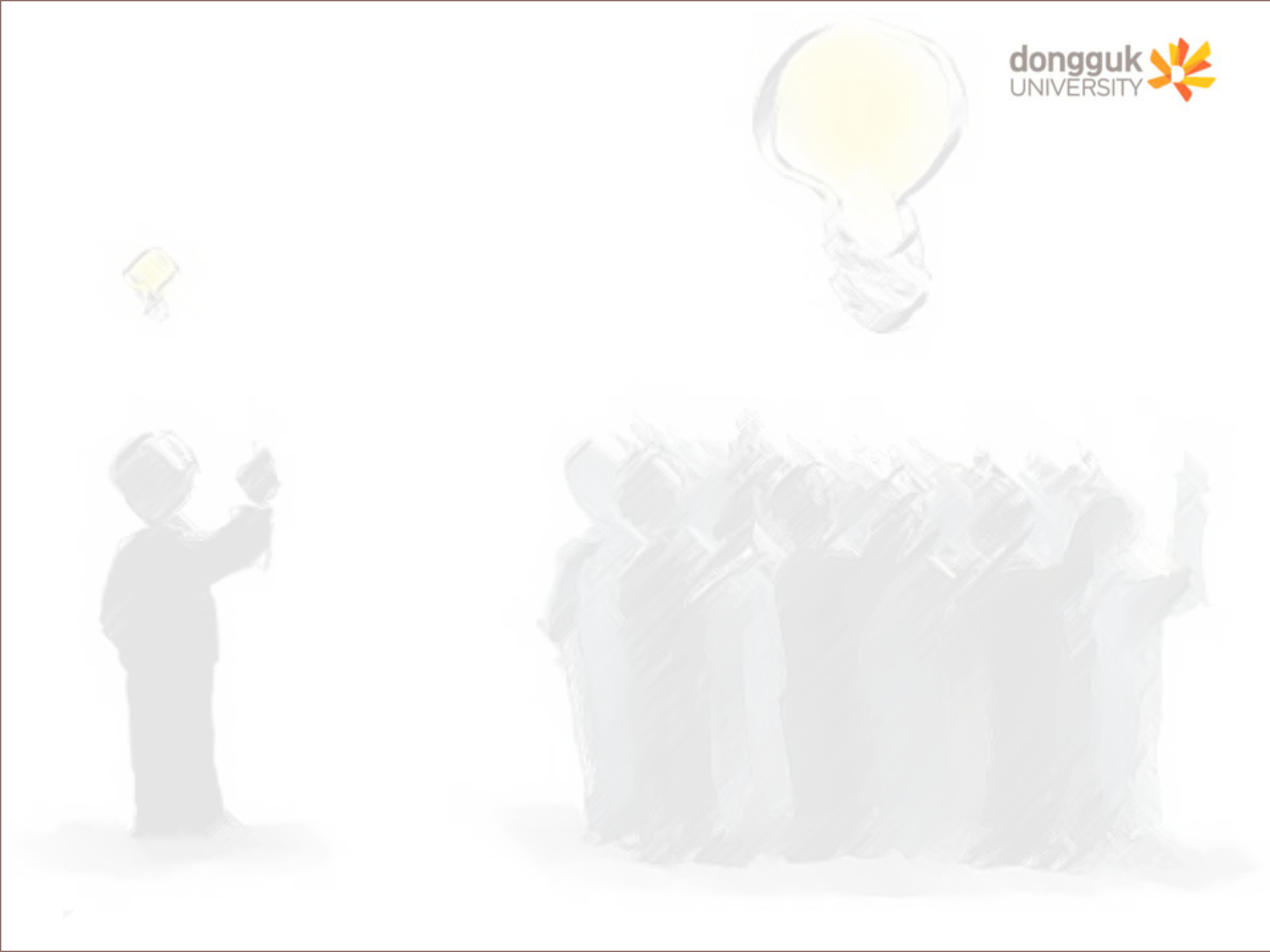


A research topic on : Crowd Sourcing

Sep 6th , 2011

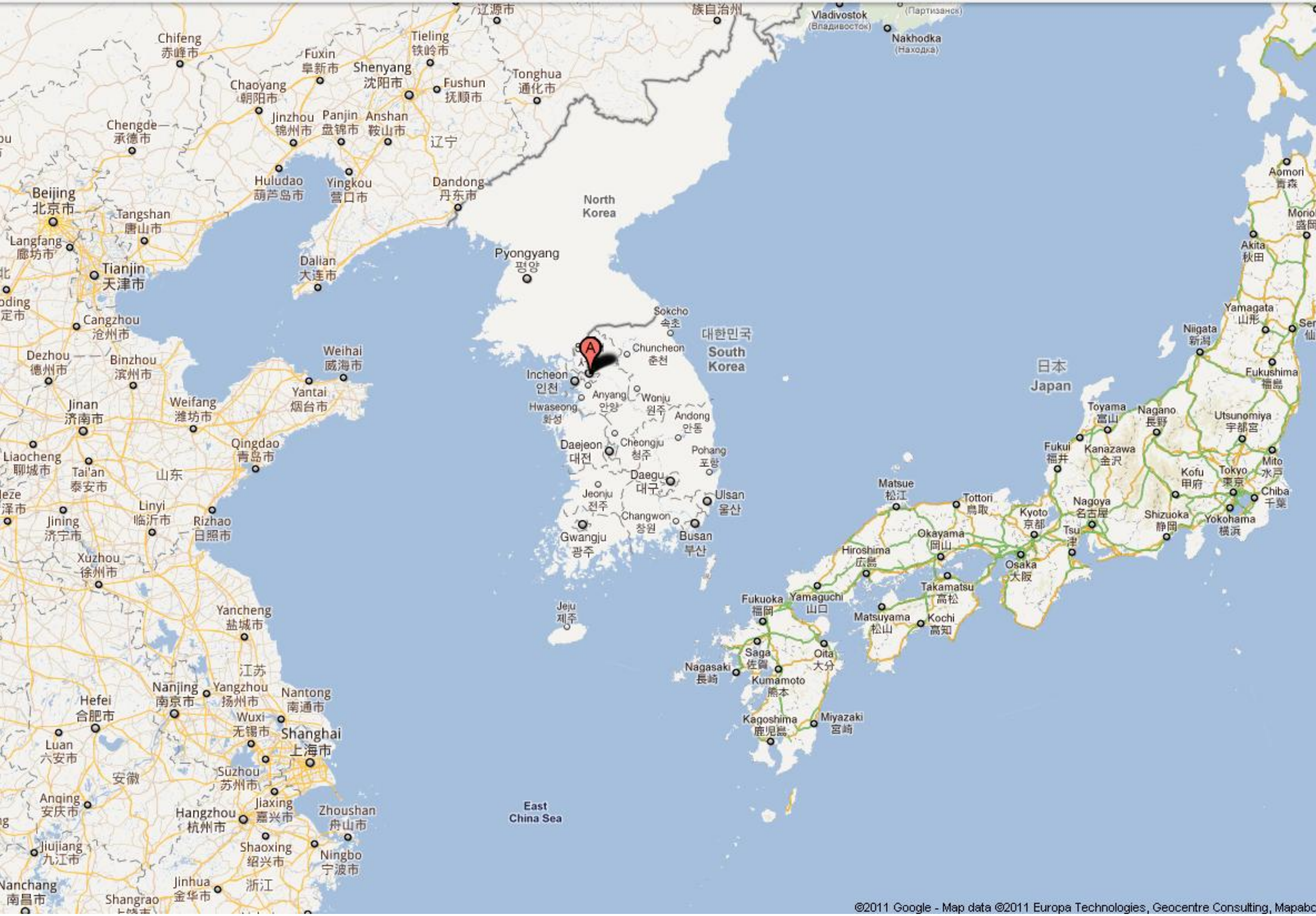
JoonYoung Park

TuanAnh Tran

Digital Product Lab,

Dept. of Industrial & Systems Engineering,

Dongguk University



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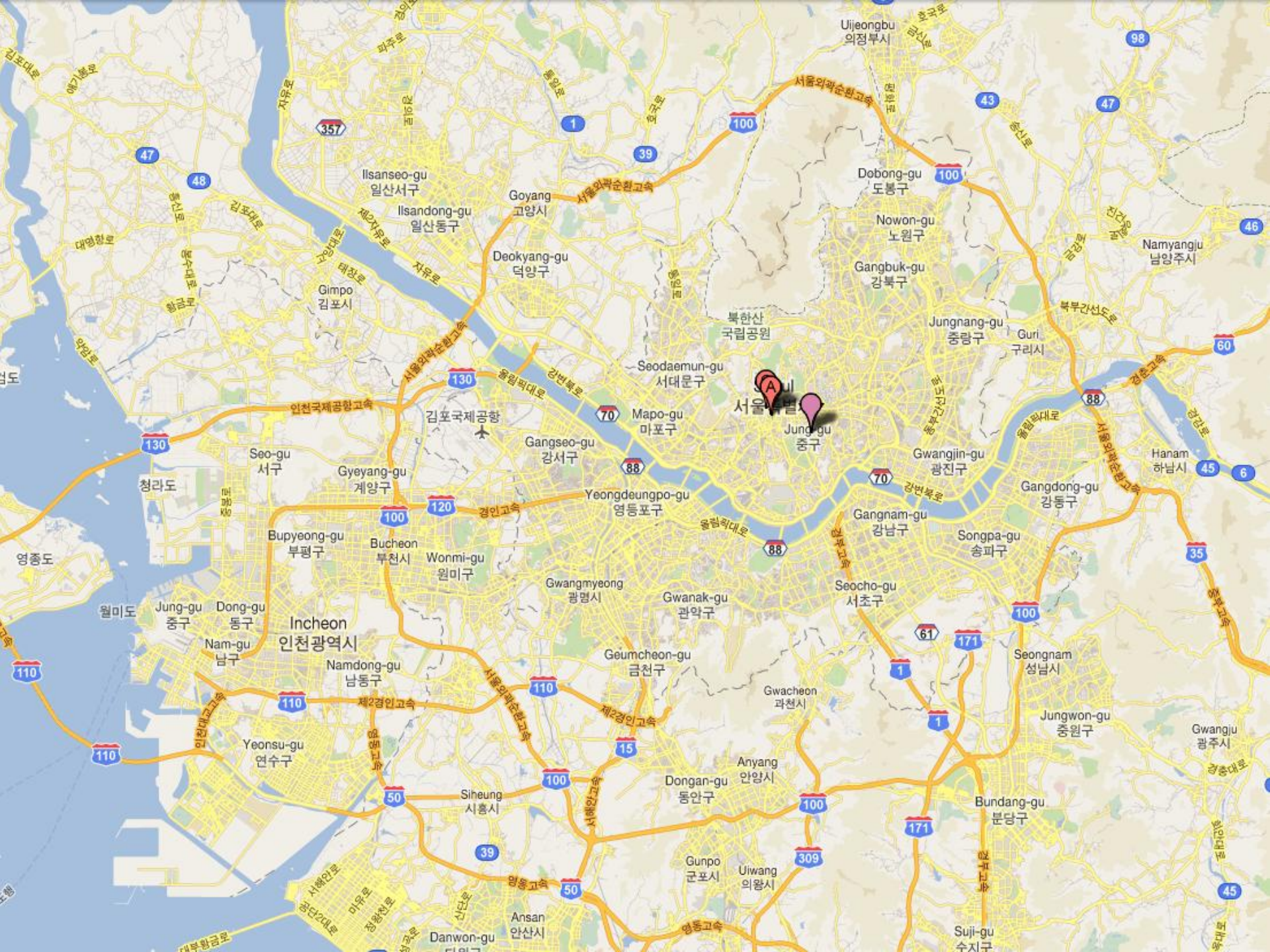
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Digital Product Lab

dongguk UNIVERSITY

- **Since 1995**

- **Mesh Generation**
- **VR**
- **Rapid Prototyping**
- **Geometry on Protein Structure**

- **Mass Customization**
- **Crowd Sourcing**

- **TuanAnh Tran**

Platform Planning for Mass Customization based on Quality Function Deployment

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JoonYoung Park

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Dept. of Industrial & Systems Engineering, Dongguk University, Seoul, Korea

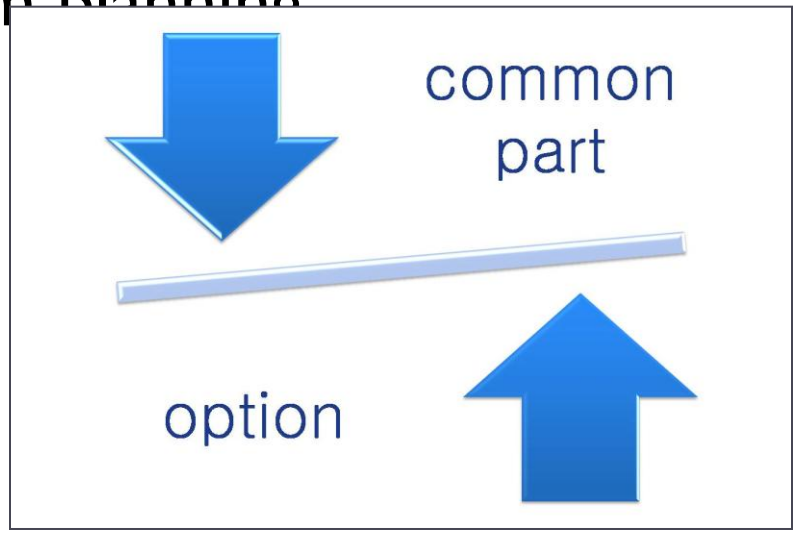
Introduction

- Mass customization(MC) is to make product and service customized individually in a mass production.
- A platform way is preferred for the product development under MC environment.
- Effective platform is fast and easy to produce various derivative products efficiently.

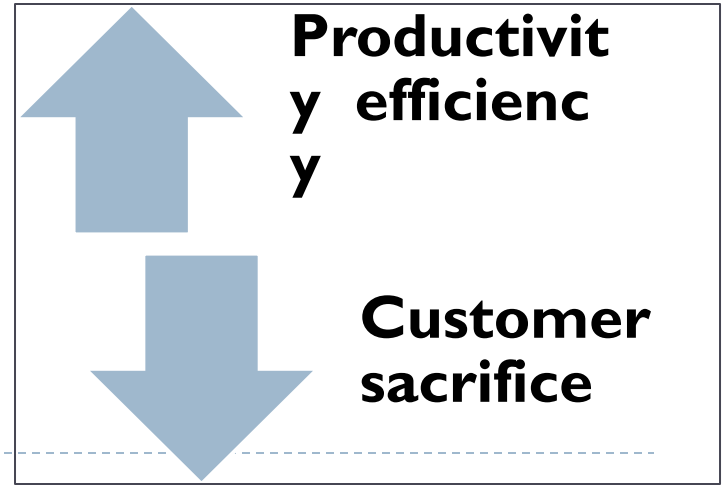
Option parts

Platform planning

- Platform planning

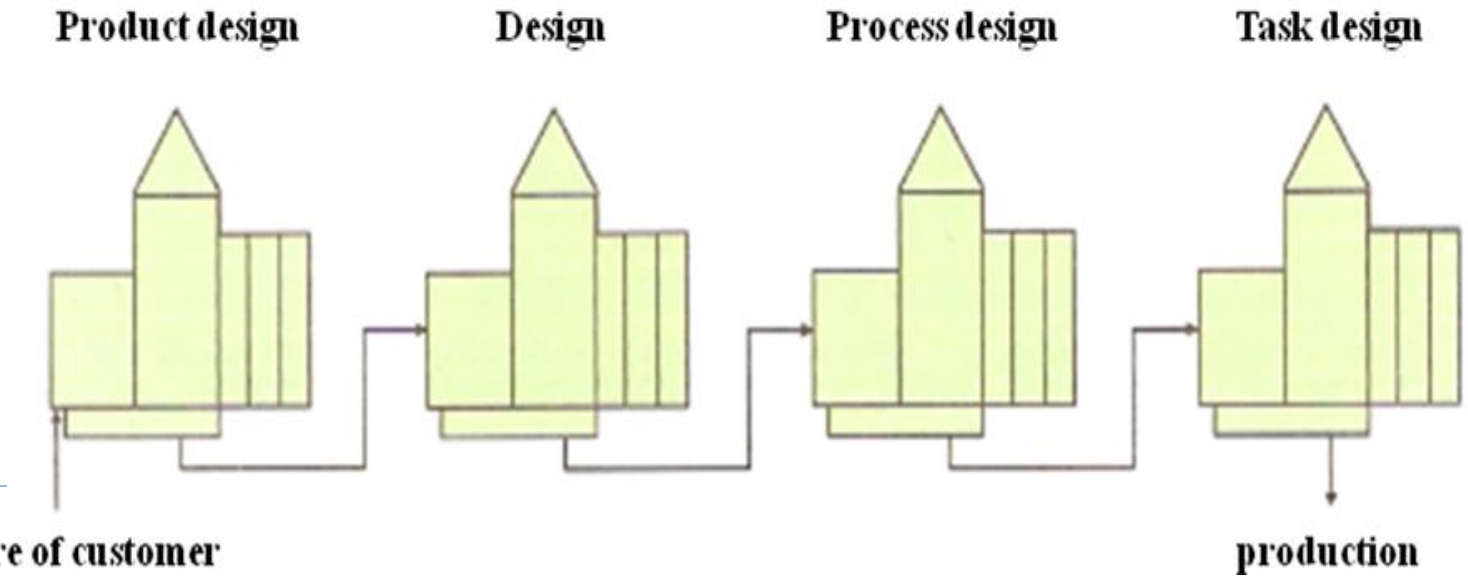


- Trade-off between common parts and option.



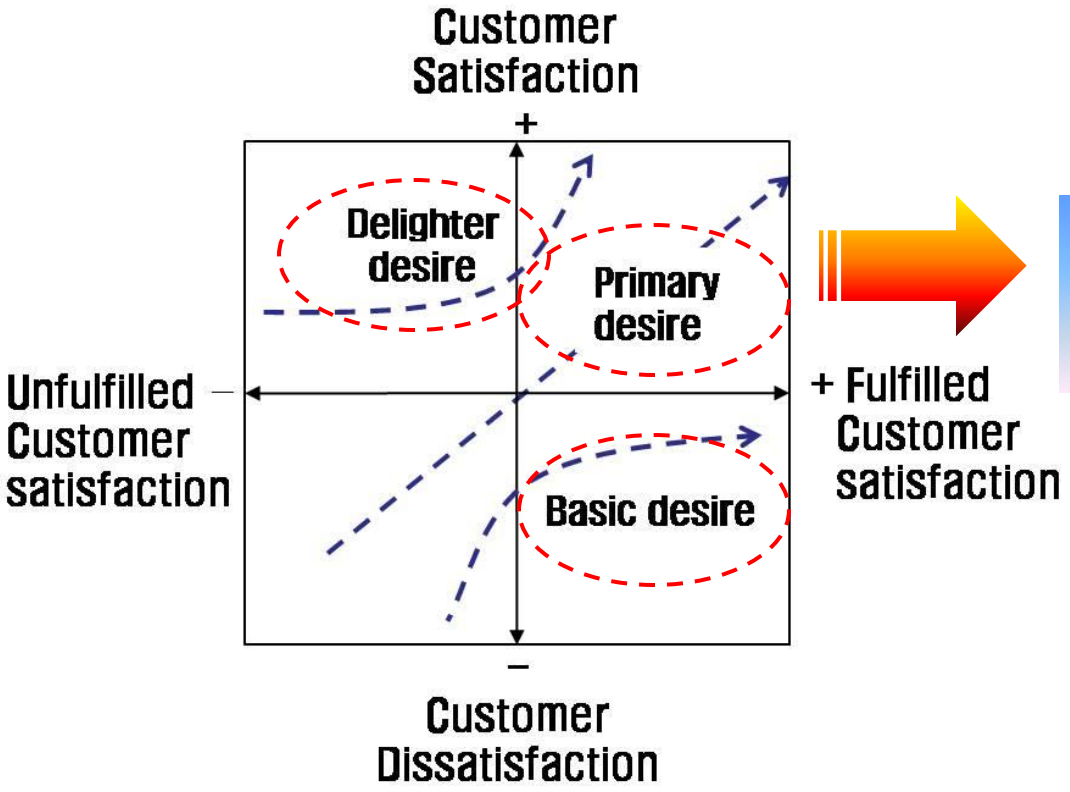
Quality function deployment

- The problem in a product development process is that a customer and a product developer are using different languages.
- QFD was developed to deliver customer's desire consistently to technology, design, and product production system.
- Various derivative products are developed through QFD.



Kano analysis

- Analysis of customer satisfaction by classifying customer's desire into basic desire, primary desire and delighter desire.

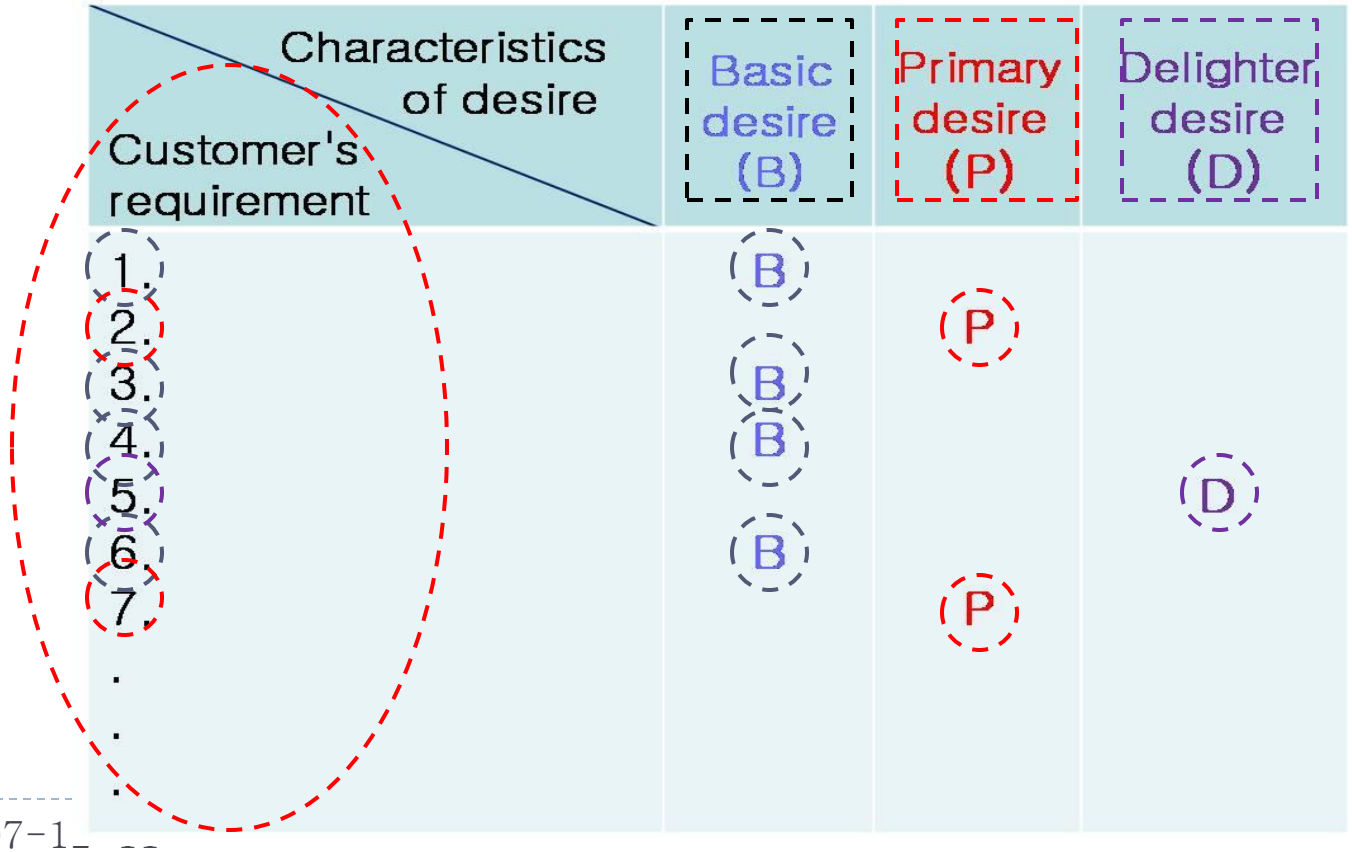


Three types of Customer's desire

QFD Process for MC(1)

1st stage: Analysis on the customer's requirement.

2nd stage: Break down into components depending on characteristics, using Kano Analysis.



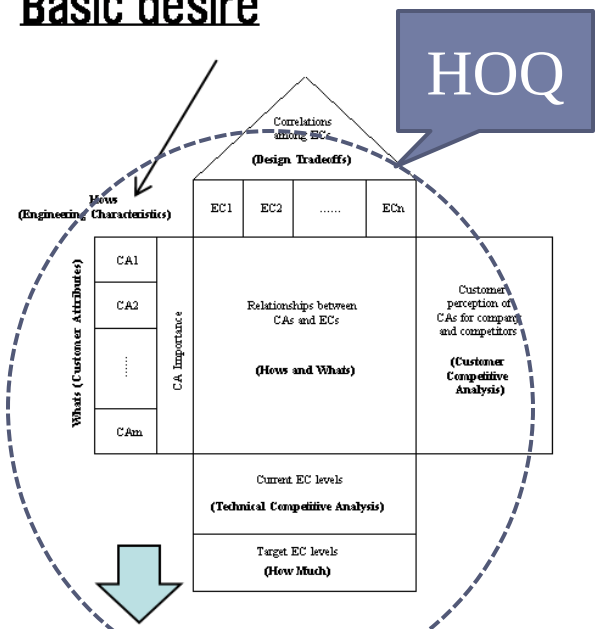
QFD Process for MC(2)

3rd stage : Create QFD based on customer's desire.

4th stage : Determination of MC level considering the characteristics of desire.

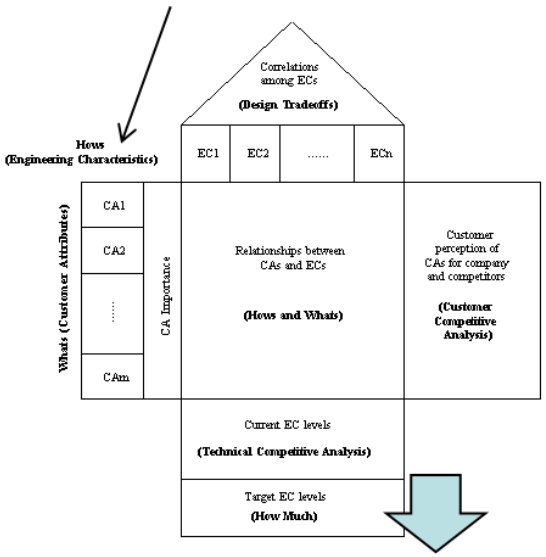
5th stage : Decision on the final specification.

Basic desire



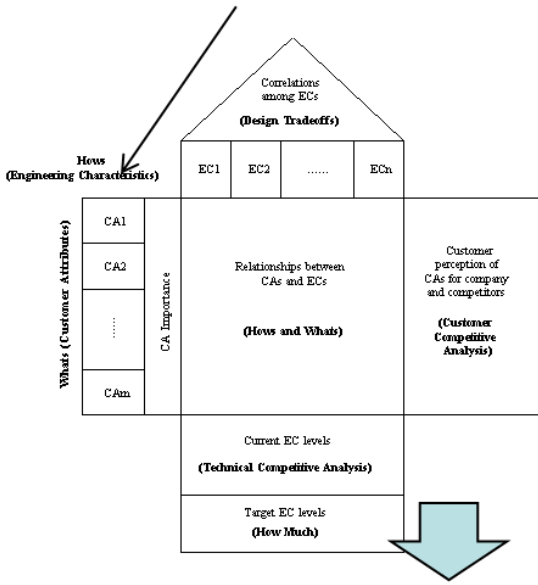
Common parts [standard platform]: Making the target specification and the final specification identical to each other

Primary desire



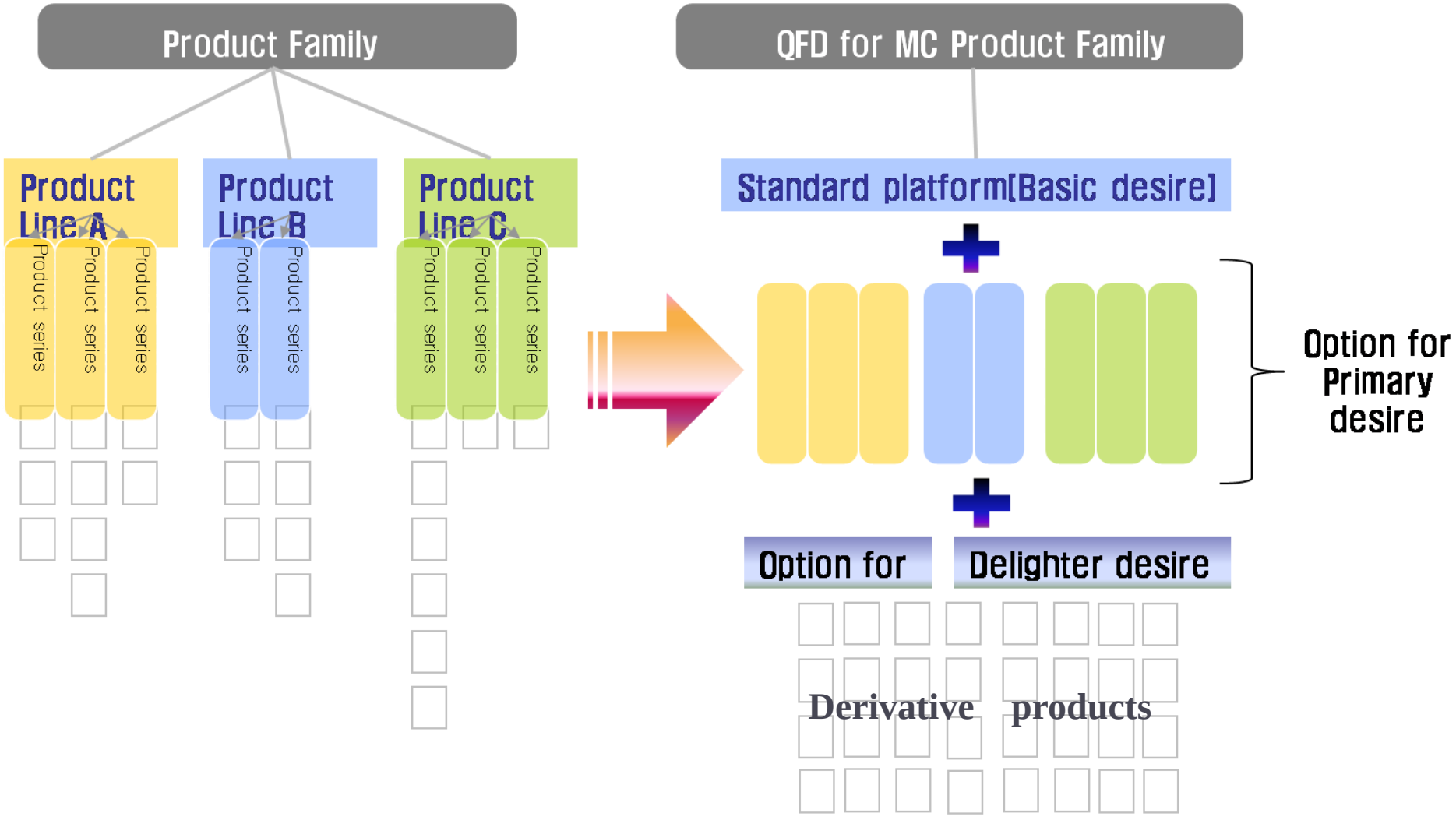
product with high MC level [ensuring the maximum diversity],

Delighter desire



option with low MC level [product with high technological level though the diversity is insufficient.]

Derivative products using QFD for MC



INVESTIGATION OF CROWD PARTICIPATION PATTERN OVER PRODUCT DEVELOPMENT

TuanAnh Tran

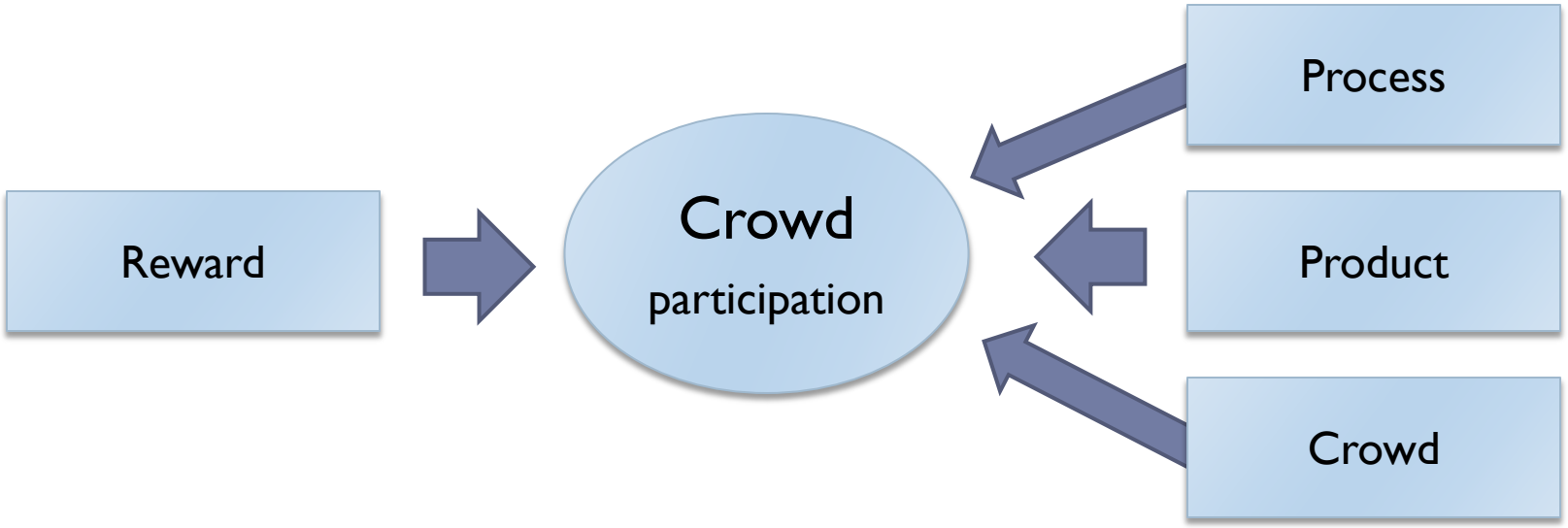
JoonYoung Park

Digital Product Lab,

Dept. of Industrial & Systems Engineering, Dongguk University, Seoul, Korea

1. Goal

- **Experiment to figure out the “crowd participation pattern” vs various factors**
- **>> to attract more people in CS projects**



2. Hypothesis

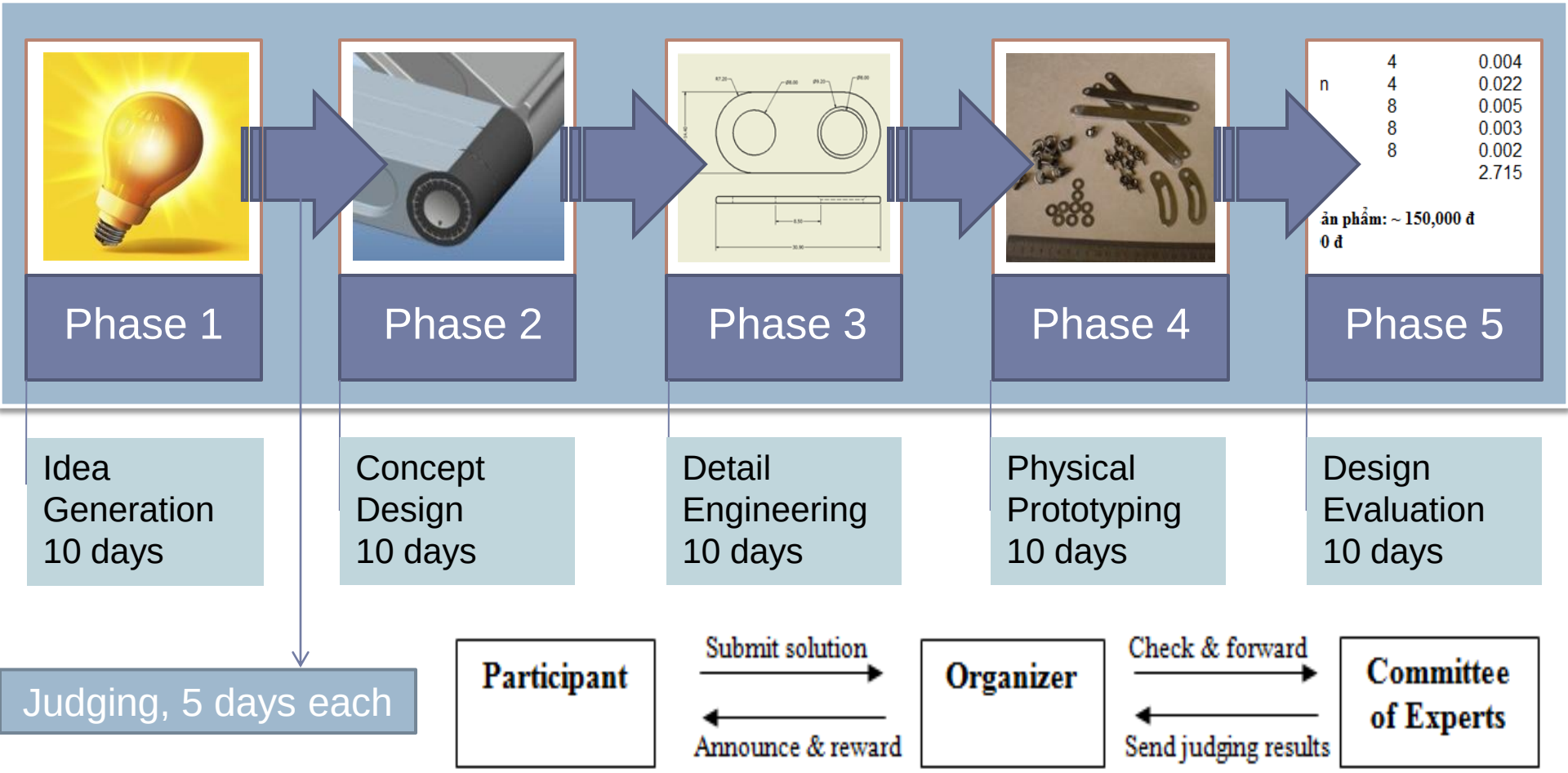
CP = Crowd participation = f(reward, product, process, crowd)		
CP = f_1(process)	**CP = f_2(product)**	**CP = f_3(crowd)**
This thesis	*Future work*	*Future work*

According to previous researches and observations:

- *F. Kleemann, 2008*
- *H. Kim et. al, 2010*

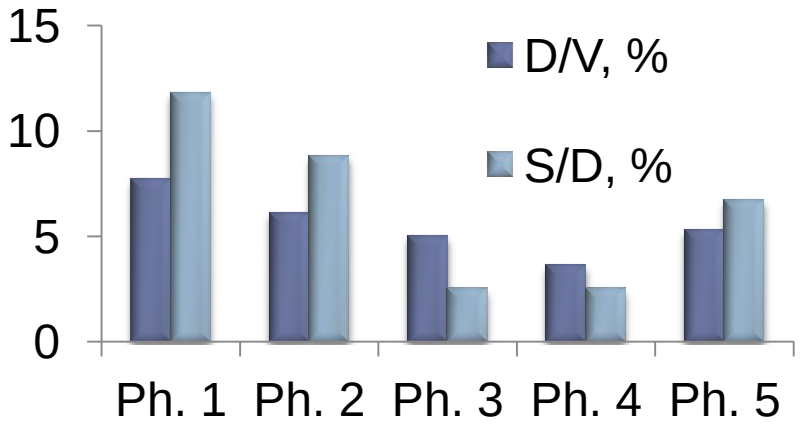
2. Experiment *(NPD11 contest)*

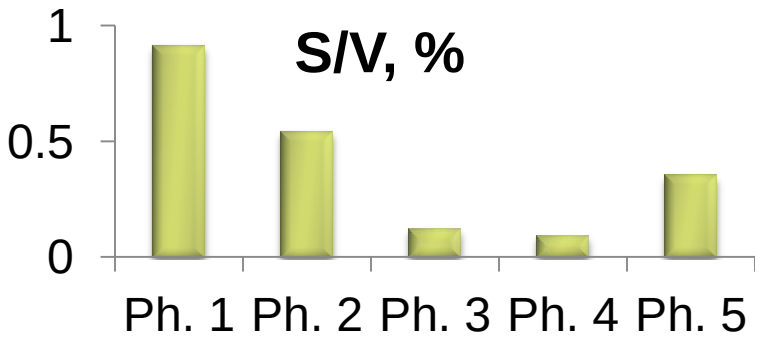
Whole experiment process (75 days)



3. Results

Calculated data & graphs showing variation of ratios





	D/V, %	S/D, %	S/V, %
Phase 1 (Ph. 1)	7.7	11.8	0.91
Phase 2 (Ph. 2)	6.1	8.8	0.54
Phase 3 (Ph. 3)	5.0	2.5	0.12
Phase 4 (Ph. 4)	3.6	2.5	0.09
Phase 5 (Ph. 5)	5.3	6.7	0.35

4. Conclusions & future work

- This study investigates how the crowd responses & how CS affects different NPD phases
- Supplies practical guidelines for implementation of CS for NPD.
- Discovers participation pattern of crowd over NPD phases
- Design of experiments for other factors (crowd, product)

- Thank you very much