

# Time Series – Bass Diffusion Model

Assignment due date: Sunday, October 27, 2019, 23:59

## Task:

1. Download and read the data file (Subs\_KOR.xlsx) to your Jupyter notebook (Python) from the following url: [http://byungwan.com/class/Subs\\_KOR.xlsx](http://byungwan.com/class/Subs_KOR.xlsx)
2. Using the Bass diffusion model, find the market potential ( $M$ ), innovator parameter ( $p$ ), and imitator parameter ( $q$ )
3. Compare  $p$  and  $q$  from Korea data with those from US data and discuss the results of the comparison  
*\* Write a paragraph in a Markdown cell; It is OK even though OLS coefficients are not significant in 5% interval (i.e., p-values are greater than 0.05)*
4. Predict the number of internet subscribers in 2025  
*\* Show the prediction using a figure/plot*

## Please remember (Important):

- This is an **individual assignment**
- The copying answers from others will be considered academic cheating and will be sanctioned according to University rules

## Submission guideline:

- Save your file using the following conversion: Lastname\_Firstname\_StudentID.ipynb
- Submit only a Jupyter notebook (Python) file
- All submissions **MUST** be made electronically through the assignment link on Blackboard
- **NO** late submission will be accepted

## Grading:

Task	Mark
The data is correctly imported and read	___ / 1
The Bass model is correctly applied	___ / 3
$m$ , $p$ , and $q$ are correctly computed	___ / 1
The comparison of $p$ and $q$ are reasonable and logical	___ / 5
The prediction is well performed	___ / 3
Submission guidelines are followed	___ / 2
<b>Total</b>	<b>___ / 15</b>