Tech Liberty

A Threefold Policy Recommendation on Technology Liberalization in ASEAN Countries and the Effect on Income Inequality

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INTRODUCTION

9 out of 10

ASEAN countries experience high digital and income inequality

(Paschalidou, Georgia, 2011)

35%

Smartphone Penetration in the ASEAN region but is growing rapidly

(Kearney, 2015)

2025

ASEAN has the potential to enter the top 5 digital economies in the world

(Kearney, 2015)

RELATIONSHIP:

Digital Inequality & Income Inequality

Digital Gap is just as extreme and profound as the Income Gap in many countries around the world

(Cunningham, 2015)

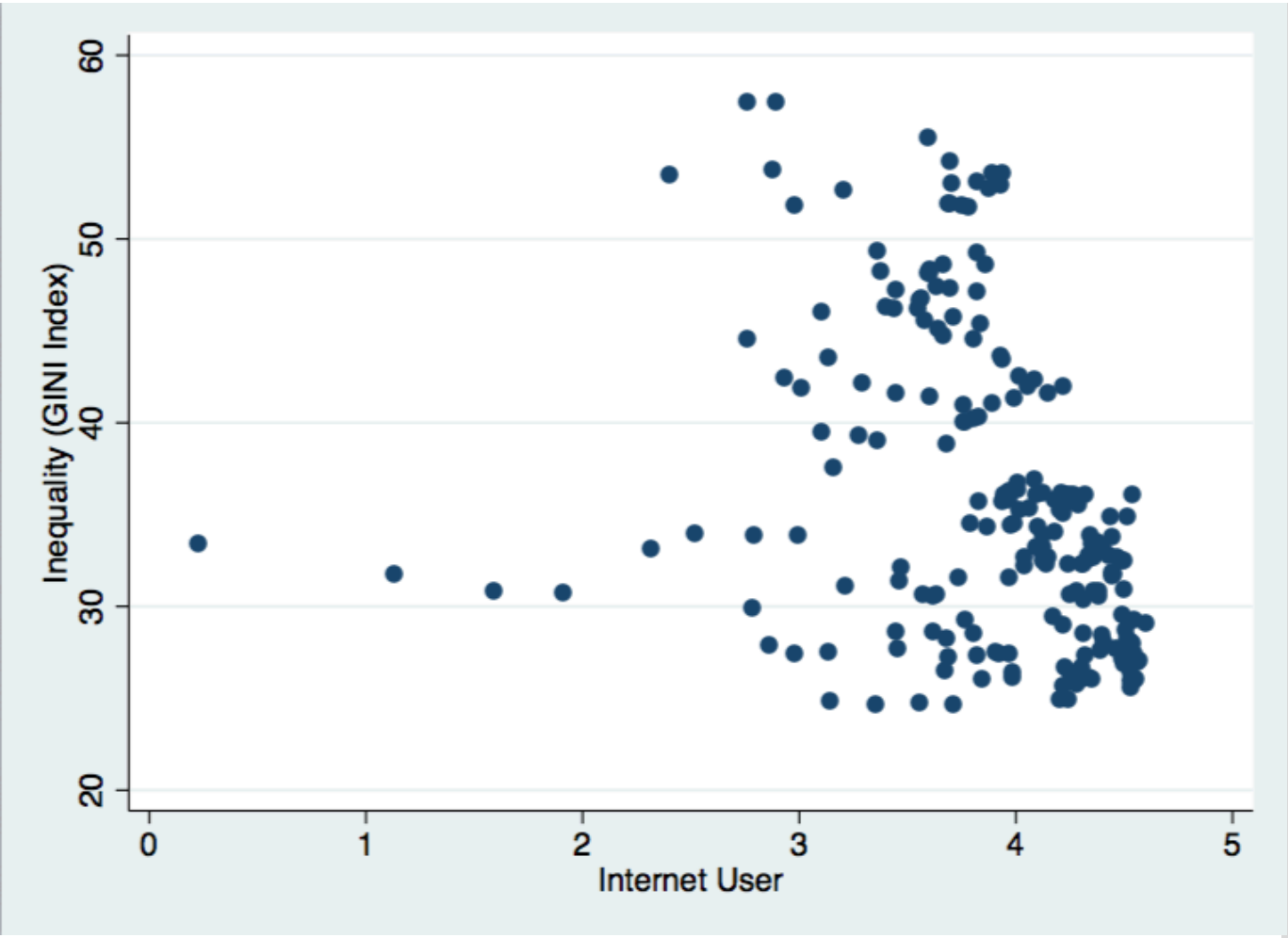
This study seeks to:

Determine the relationship between Income Inequality and Digital Inequality in the ASEAN Context.

Recommend policies in line with the ASEAN Economic Blueprint 2025

DISCUSSION/ANALYSIS

Wage Inequality = a + % of Internet Users + GDPperCapita + △Country + Interaction%PH + Interaction%SG



Income Inequality is **negatively associated** with Internet User

Higher % of internet users → lower income inequality

Data Source: GINI Index (World Bank)
Internet User (Global Finance)

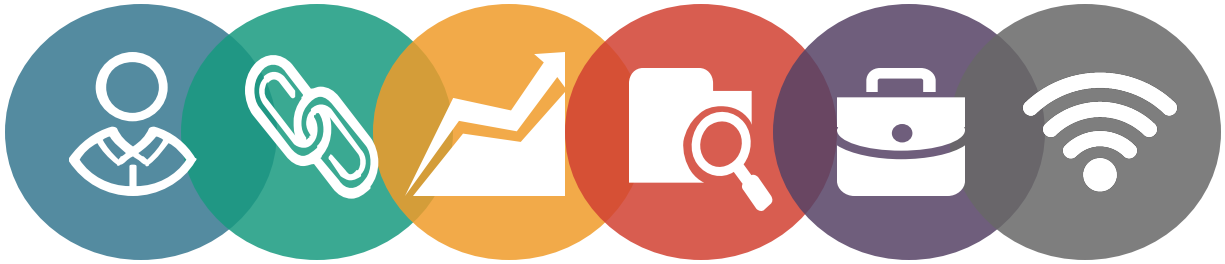
DISCUSSION/ANALYSIS

Developing Economy

Heavily benefits from the rise in technology and alleviation of digital inequality

Developed Economy

Alleviation of digital economy does little to mend income inequality in the country.



Due to the presence of this relationship, we recommend these policies

POLICY RECOMMENDATIONS

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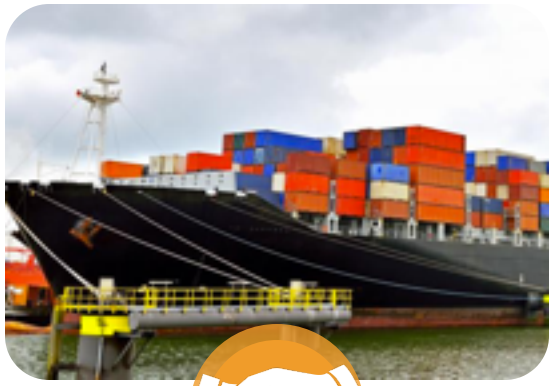
Software Literacy

Accessible Public Wi-Fi



Trade Liberalization

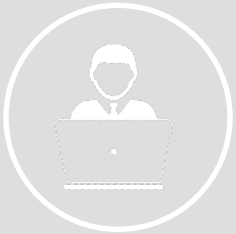
POLICY RECOMMENDATION 1

Advancing Software Literacy Through the Implementation of Basic Software Education as part of the Basic Education Curriculum (BEC)

Software Literacy

Policy Recommendation 1

What is Software Literacy?

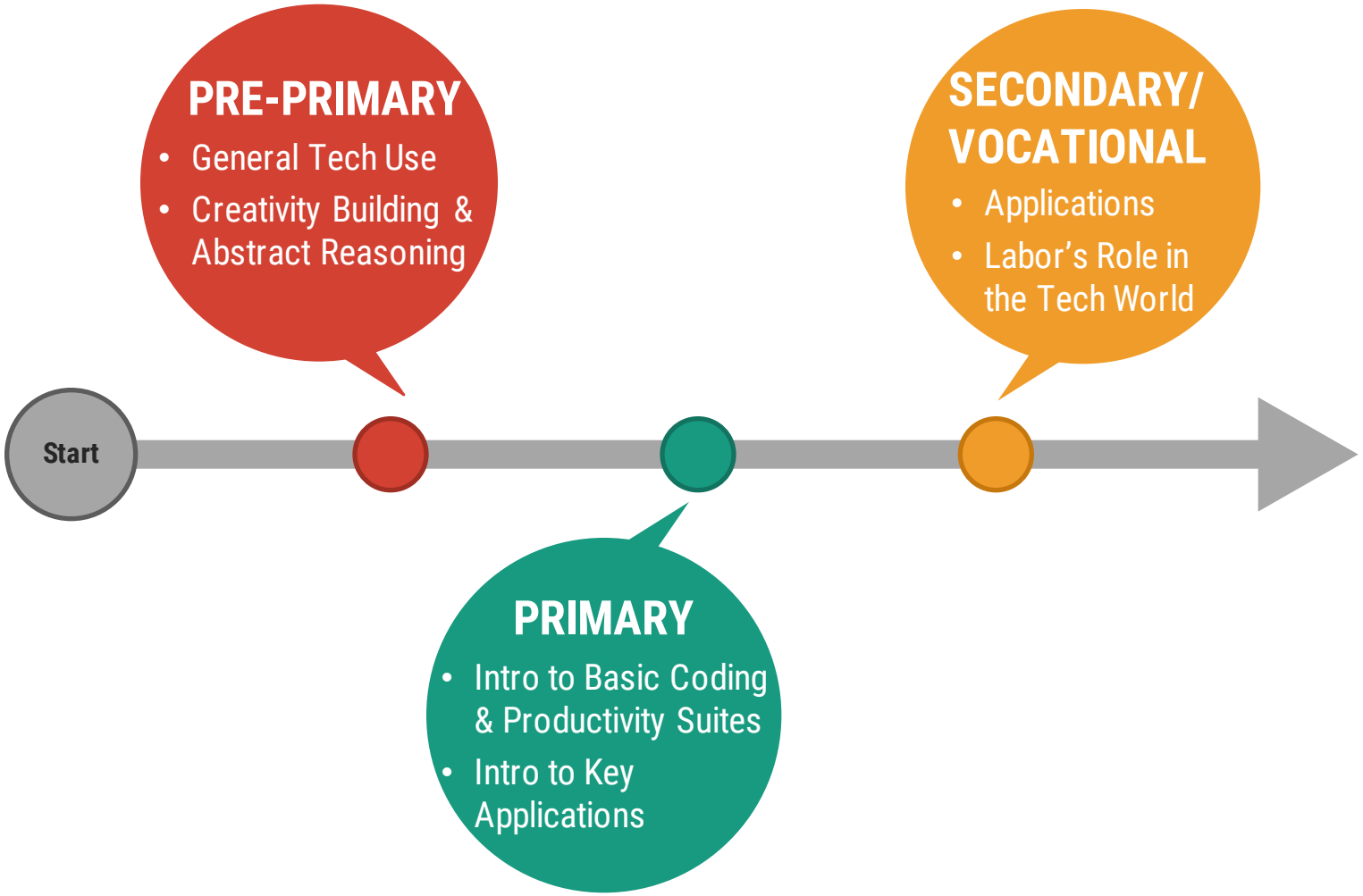


Lack of ICT Related Courses

Rollout for Technology Related Subjects

Software Literacy

Policy Recommendation 1



Software Literacy

Policy Recommendation 1

Main Takeaways

- Catch up with modernization
- Promote a knowledge based economy
- Inline with the ASEAN Economic Blueprint 2025

POLICY RECOMMENDATION 2

Making Public Wi-Fi Accessible through a Public-Private Partnership (PPP)

Accessible Public Wi-Fi

Policy Recommendation 2

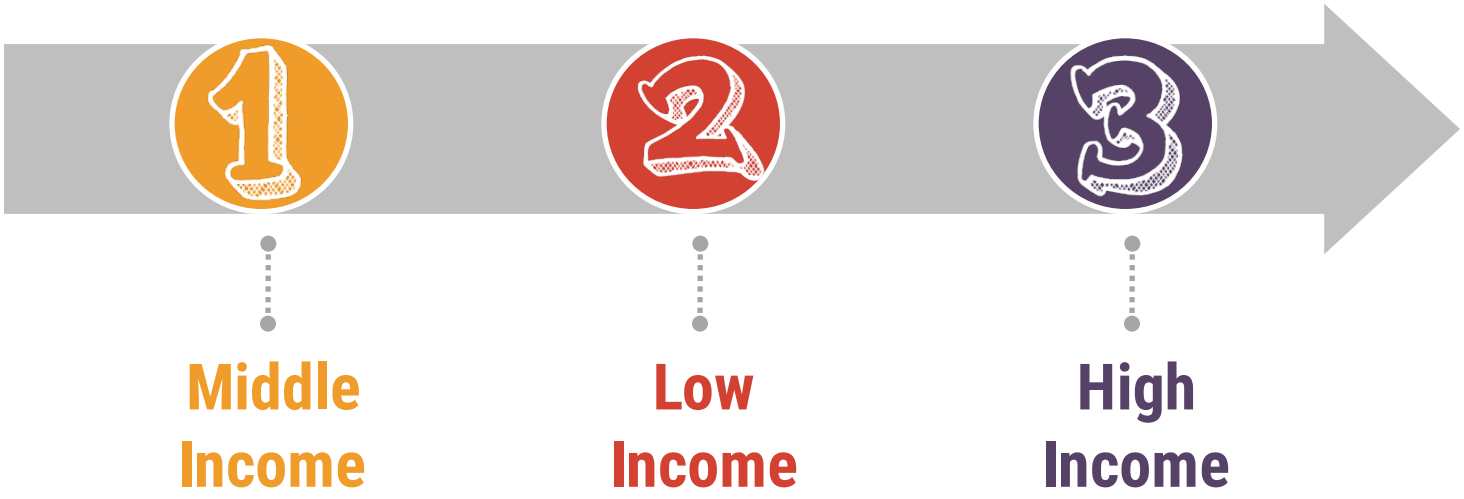
Why Public-Private Partnerships?

Increase infrastructure development for ICT initiatives

Accessible Public Wi-Fi

Policy Recommendation 2

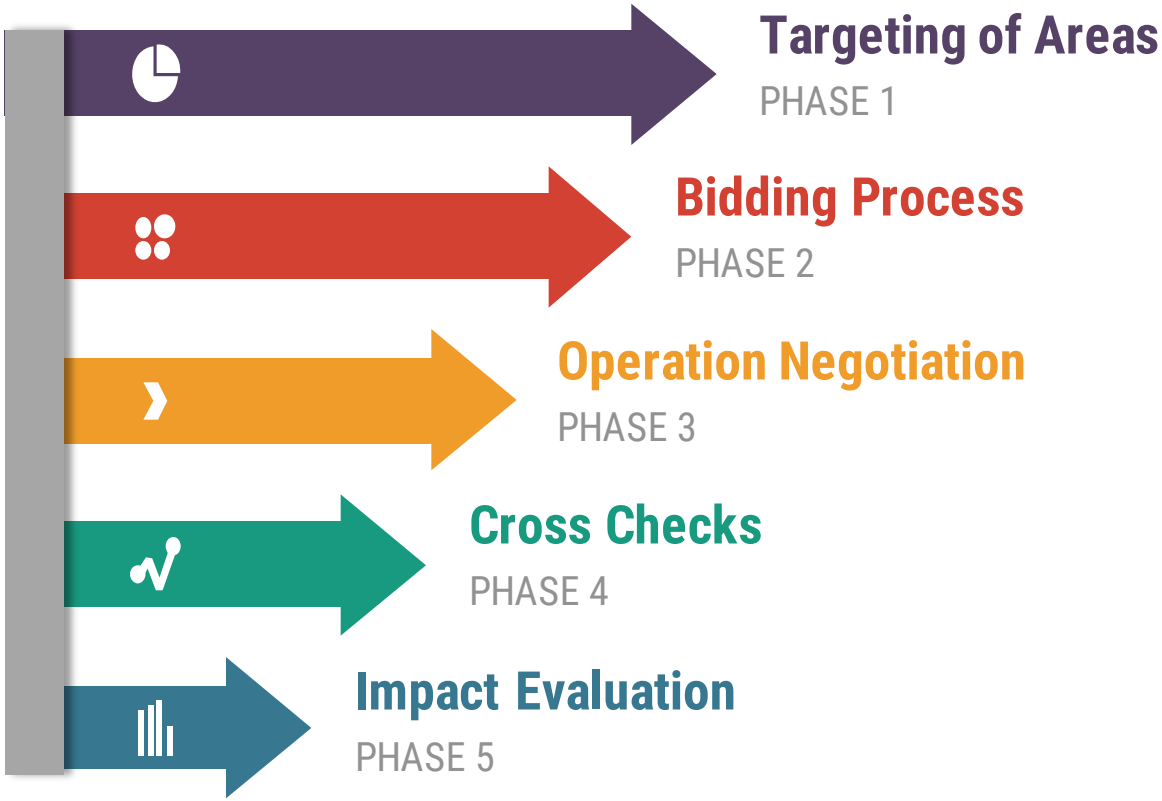
Start Small, Dream Big



Rationale: Take into account the **lag** that is present between the rich and the poor *(Greenwood, 2010)*

Accessible Public Wi-Fi

Policy Recommendation 2



Accessible Public Wi-Fi

Policy Recommendation 2

Main Takeaways

- Win-win-win situation
- Gradual Rollout: Micro → Macro
- Utilize knowledge gained from software literacy programs

POLICY RECOMMENDATION 3

Trade Liberalization through the lowering of technology importations customs tax, trade barriers on technological goods and telecommunications tax

Trade Liberalization

Policy Recommendation 3

Presence of higher taxes and fees for technological goods

Unaffordability of technological goods

Trade Liberalization

Policy Recommendation 3

01 PUSH FOR INCLUSIVITY

02 STABILIZATION OF PRICES

03 SETTING THE CONDITIONS FOR THE TECHNOLOGICAL SPACE

Trade Liberalization

Policy Recommendation 3

Main Takeaways

- Lower trade barriers → Lower technological good prices
- Firms → sell at lower prices while maintaining same profit
  Consumers → purchase at lower prices
- Lessen market power of existing oligopolies and monopolies

CONCLUSION

THANK YOU!

감사합니다!

ありがとうございました。

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Table 1

Definition Independent and Dependent Variables

with their A-priori Expectations

Independent /Dependent Variable	A-priori Expectation	Definition
Income Inequality (Dependent)	+/-	Measured in USD, the income inequality presents a picture in how even or uneven wealth in the form of income is distributed in a particular country (Charlton, 2012). This particular variable is measured by the Gini Index and is an index which ranges from 1 to 100. This variable is the dependent variable in the particular model dependent on the other variables presented below.
Percentage of the Population with Access to the Internet	-	Measured in percent, this percentage measures the relative percentage of the population able to connect and use the internet over a period of time. This has a negative effect on income inequality due to the increase in productivity associated with adequate access to the internet to execute day to day tasks and other workloads (Greenwood, 2010).

Econometric Model

$$WageInequality = \beta_0 + \beta_1 PercentageOfInternetUsers + \beta_2 GDPPerCapitaPPP + \Delta Country + \beta_3 Interaction\%andPH + \beta_4 Interaction\%andSG + \widehat{U}_i$$

Variable Name	Description and Data Soruce
Wage Inequality (Dependent Variable)	Measures the difference of groups, populations and countries between the highest income and lowest income Source of Data: World Bank
Percentage of the Population with Access to the Internet (Independent Variable)	Measures the percentage of the population which are daily internet users Source of Data: Global Finance

Pooled OLS Model Result

Figure 1 Regression Results using Robust Standard Errors (Pooled OLS)
*Philippines is the Base Country Dummy Variable

WageInequality	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
GDPPerCapita	0.0000	0.0001	0.3	0.763	-0.0001	0.0002
%OfInternetUsers	-0.0436	0.0147	-2.96	0.004	-0.0728	-0.0144
LAOPDR	-8.3632	0.5365	-15.59	0	-9.4266	-7.2999
MALAYSIA	5.2956	1.0481	5.05	0	3.2181	7.3732
SINGAPORE	-5.8243	2.2429	-2.6	0.011	-10.2700	-1.3786
THAILAND	-2.6118	0.7346	-3.56	0.001	-4.0679	-1.1557
VIETNAM	-6.3670	0.7110	-8.95	0	-7.7763	-4.9577
MYANMAR	-8.2007	0.5554	-14.77	0	-9.3016	-7.0998
InteractPH%	-0.0065	0.0198	-0.33	0.743	-0.0457	0.0327
InteractSG%	0.1008	0.0591	1.71	0.091	-0.0162	0.2179
Model Intercept	43.3340	0.5606	77.3	0	42.2228	44.4451

Fixed Effects Model Result

Figure 2 Regression Results using Robust Standard Errors (Pooled OLS)
*Philippines is the Base Country Dummy Variable

WageInequality	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
GDPPerCapita	-0.0001	0.0001	-1.37	0.175	-0.0004	0.0001
%OfInternetUsers	-0.0517	0.0209	-2.47	0.016	-0.0933	-0.0100
LAOPDR	-8.9309	0.5967	-14.97	0	-10.1168	-7.7450
MALAYSIA	7.6874	1.4973	5.13	0	4.7114	10.6634
SINGAPORE	-1.7858	2.8536	-0.63	0.533	-7.4577	3.8861
THAILAND	-1.7983	0.8229	-2.19	0.032	-3.4339	-0.1627
VIETNAM	-7.0138	0.7574	-9.26	0	-8.5193	-5.5083
MYANMAR	-8.8814	0.6570	-13.52	0	-10.1873	-7.5756
InteractPH%	-0.0214	0.0210	-1.02	0.31	-0.0632	0.0203
InteractSG%	0.2025	0.0695	2.91	0.005	0.0644	0.3406
Model Intercept	44.6210	0.7674	58.15	0	43.0958	46.1463

Random Effects Model Result

Figure 1 Regression Results using Robust Standard Errors (Pooled OLS)

*Philippines is the Base Country Dummy Variable

WageInequality	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
GDPPerCapita	0.0000	0.0001	0.3	0.762	-0.0001	0.0002
%OfInternetUsers	-0.0436	0.0147	-2.96	0.003	-0.0724	-0.0148
LAOPDR	-8.3632	0.5365	-15.59	0	-9.4147	-7.3118
MALAYSIA	5.2956	1.0481	5.05	0	3.2413	7.3499
SINGAPORE	-5.8243	2.2429	-2.6	0.009	-10.2202	-1.4284
THAILAND	-2.6118	0.7346	-3.56	0	-4.0516	-1.1720
VIETNAM	-6.3670	0.7110	-8.95	0	-7.7606	-4.9735
MYANMAR	-8.2007	0.5554	-14.77	0	-9.2893	-7.1121
InteractPH%	-0.0065	0.0198	-0.33	0.742	-0.0453	0.0323
InteractSG%	0.1008	0.0591	1.71	0.088	-0.0149	0.2166
Model Intercept	43.33399	0.560597	77.3	0	42.23524	44.43274

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