



ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

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ภาคผนวก ก

ผลวิเคราะห์ Multiple Regression โดยใช้โปรแกรมสำเร็จรูป SPSS

Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	tSETUP		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	DEFECT		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
3	MULTISKI		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
4	OVERTIME		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
5	MODEL		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: EFFICIEN

Model Summary^a

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.599 ^a	.359	.353	.13265
2	.751 ^b	.564	.556	.10990
3	.798 ^c	.637	.627	.10068
4	.845 ^d	.714	.704	.08977
5	.852 ^e	.725	.712	.08846

a. Predictors: (Constant), tSETUP

b. Predictors: (Constant), tSETUP, DEFECT

c. Predictors: (Constant), tSETUP, DEFECT, MULTISKI

d. Predictors: (Constant), tSETUP, DEFECT, MULTISKI, OVERTIME

e. Predictors: (Constant), tSETUP, DEFECT, MULTISKI, OVERTIME, MODEL

f. Dependent Variable: EFFICIEN

ANOVA^f

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.073	1	1.073	60.989	.000 ^a
	Residual	1.918	109	.018		
	Total	2.991	110			
2	Regression	1.687	2	.843	69.829	.000 ^b
	Residual	1.304	108	.012		
	Total	2.991	110			
3	Regression	1.907	3	.636	62.692	.000 ^c
	Residual	1.085	107	.010		
	Total	2.991	110			
4	Regression	2.137	4	.534	66.303	.000 ^d
	Residual	.854	106	.008		
	Total	2.991	110			
5	Regression	2.170	5	.434	55.457	.000 ^e
	Residual	.822	105	.008		
	Total	2.991	110			

a. Predictors: (Constant), tSETUP

b. Predictors: (Constant), tSETUP, DEFECT

c. Predictors: (Constant), tSETUP, DEFECT, MULTISKI

d. Predictors: (Constant), tSETUP, DEFECT, MULTISKI, OVERTIME

e. Predictors: (Constant), tSETUP, DEFECT, MULTISKI, OVERTIME, MODEL

f. Dependent Variable: EFFICIEN

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Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.792	.013		62.466	.000
	tSETUP	-8.87E-02	.011	-.599	-7.810	.000
2	(Constant)	.945	.024		39.415	.000
	tSETUP	-7.55E-02	.010	-.510	-7.870	.000
	DEFECT	-2.234	.313	-.462	-7.128	.000
3	(Constant)	.782	.041		18.856	.000
	tSETUP	-6.59E-02	.009	-.445	-7.297	.000
	DEFECT	-1.602	.318	-.331	-5.042	.000
	MULTISKI	3.223E-02	.007	.313	4.656	.000
4	(Constant)	.659	.043		15.170	.000
	tSETUP	-4.86E-02	.009	-.328	-5.595	.000
	DEFECT	-1.331	.288	-.275	-4.626	.000
	MULTISKI	4.280E-02	.006	.416	6.605	.000
	OVERTIME	1.233E-04	.000	.308	5.349	.000
5	(Constant)	.734	.056		13.027	.000
	tSETUP	-4.84E-02	.009	-.327	-5.658	.000
	DEFECT	-1.326	.284	-.274	-4.676	.000
	MULTISKI	4.022E-02	.007	.391	6.178	.000
	OVERTIME	1.134E-04	.000	.283	4.879	.000
	MODEL	-2.30E-02	.011	-.110	-2.040	.044

a. Dependent Variable: EFFICIEN

Excluded Variables

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	MODEL	-.249 ^a	-3.353	.001	-.307	.977
	OVERTIME	.213 ^a	2.701	.008	.252	.898
	MAN	.135 ^a	1.776	.079	.168	.999
	ATTENDAN	.039 ^a	.497	.620	.048	.954
	DEFECT	-.462 ^a	-7.128	.000	-.566	.963
	MULTISKI	.458 ^a	6.805	.000	.548	.917
	BREAKDOW	-.014 ^a	-.176	.861	-.017	.993
2	MODEL	-.199 ^b	-3.205	.002	-.296	.965
	OVERTIME	.192 ^b	2.960	.004	.275	.896
	MAN	.148 ^b	2.368	.020	.223	.998
	ATTENDAN	.000 ^b	-.007	.995	-.001	.947
	MULTISKI	.313 ^b	4.656	.000	.410	.749
	BREAKDOW	-.009 ^b	-.144	.886	-.014	.993
	3	MODEL	-.165 ^c	-2.842	.005	-.266
OVERTIME		.308 ^c	5.349	.000	.461	.813
MAN		.108 ^c	1.844	.068	.176	.973
ATTENDAN		.015 ^c	.253	.801	.025	.944
BREAKDOW		.019 ^c	.327	.745	.032	.982
4	MODEL	-.110 ^d	-2.040	.044	-.195	.905
	MAN	-.014 ^d	-.238	.813	-.023	.799
	ATTENDAN	-.076 ^d	-1.367	.174	-.132	.861
	BREAKDOW	-.059 ^d	-1.084	.281	-.105	.913
5	MAN	-.008 ^e	-.147	.884	-.014	.797
	ATTENDAN	-.064 ^e	-1.152	.252	-.112	.849
	BREAKDOW	-.054 ^e	-1.009	.315	-.098	.911

a. Predictors in the Model: (Constant), tSETUP

b. Predictors in the Model: (Constant), tSETUP, DEFECT

c. Predictors in the Model: (Constant), tSETUP, DEFECT, MULTISKI

d. Predictors in the Model: (Constant), tSETUP, DEFECT, MULTISKI, OVERTIME

e. Predictors in the Model: (Constant), tSETUP, DEFECT, MULTISKI, OVERTIME, MODEL

f. Dependent Variable: EFFICIEN

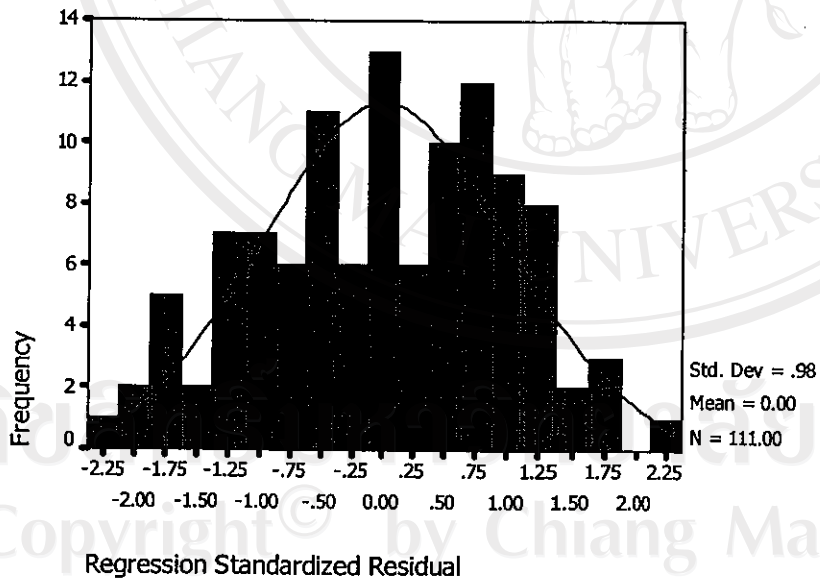
Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.3598	1.0512	.7804	.14044	111
Std. Predicted Value	-2.995	1.928	.000	1.000	111
Standard Error of Predicted Value	.01147	.04094	.01994	.00505	111
Adjusted Predicted Value	.3652	1.0583	.7803	.14074	111
Residual	-.1952	.1929	.0000	.08642	111
Std. Residual	-2.207	2.180	.000	.977	111
Stud. Residual	-2.251	2.225	.000	1.003	111
Deleted Residual	-.2030	.2009	.0001	.09116	111
Stud. Deleted Residual	-2.296	2.269	.000	1.009	111
Mahal. Distance	.859	22.572	4.955	3.337	111
Cook's Distance	.000	.073	.009	.012	111
Centered Leverage Value	.008	.205	.045	.030	111

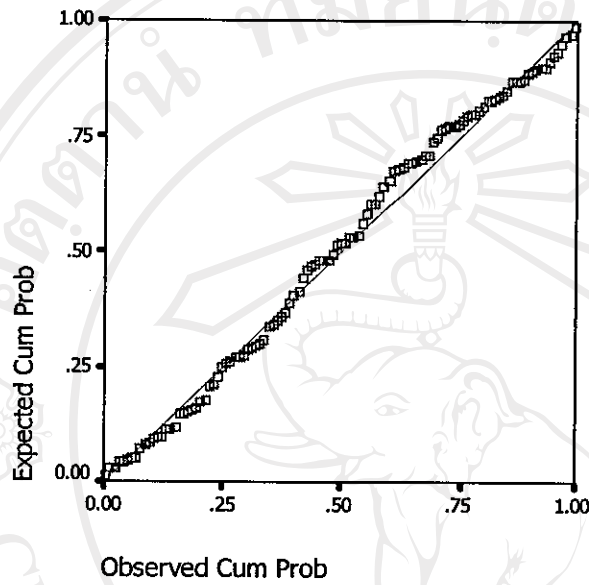
a. Dependent Variable: EFFICIEN

Histogram

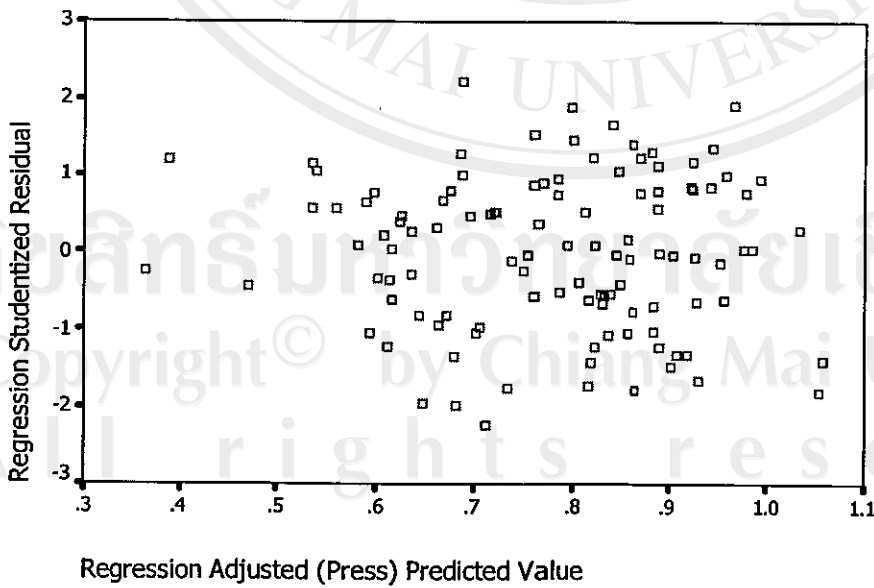
Dependent Variable: EFFICIEN



Normal P-P Plot of Regression Standard
Dependent Variable: EFFICIEN



Scatterplot
Dependent Variable: EFFICIEN



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