ANALYSIS OF THE EFFECT OF MARKETING STRATEGY, DISTRIBUTION SYSTEM, AND COOPERATION ON THE PRODUCTIVITY OF THE MULYA ABADI MILK GROUP, PUDAK DISTRICT, PONOROGO

Tiya Nurcahyani[1]; Heri Wijayanto[2]; La Ode Sugianto[3]
Universitas Muhammadiyah Ponorogo[123]
Email: tiyanurcahyani33@gmail.com[1]; Joyoscot@gmail.com[2] ; laodesugianto@umpo.ac.id[3]

ABSTRACT

This study stems from the observation that the Mulya Abadi Dairy Group possesses substantial potential in the livestock sector but continues to face several challenges, including ineffective marketing strategies, a suboptimal distribution system, and weak synergy among its members. . The objective of this research is to assess the extent to which marketing strategy*(X1), distribution system (X2), and cooperation (X3) influence productivity (Y), both partially and simultaneously. The methodology used is a quantitative approach, with data collected through surveys of 77 farmers selected randomly from a population of 330, then analyzed using SPSS version 26.*
The analysis results indicate that all three independent variables have a positive and significant effect on productivity, both individually and collectively. Therefore, improving the effectiveness of marketing strategies, enhancing the distribution system, and strengthening collaboration among members are essential aspects in boosting group productivity. Based on these findings, the study recommends stronger promotional development, more targeted market segmentation, increased distribution logistics efficiency, and better teamwork development to support the growth of the dairy industry in Pudak District, Ponorogo Regency.

Keywords: *Marketing Strategy, Distribution System, Cooperation, Productivity*

INTRODUCTION

The livestock sector, particularly dairy cattle, plays a strategic role in the Indonesian economy, not only as a food supplier in the form of milk, but also as a source of livelihood for rural communities. One example is the milk Mulya Abadi group in Pudak District, Ponorogo, is one such farming community with significant potential for increasing local milk production. However, this group still faces various challenges that hinder productivity, including suboptimal marketing strategies, an inefficient distribution system, and weak cooperation among group members. Consequently, its dairy products struggle to reach wider and more competitive markets, which adversely affects business growth and the farmers' welfare.

This study primarily aims to analyze the influence of marketing strategies, distribution systems, and collaborative efforts on the productivity of dairy farmer groups, both individually and collectively. pecifically, it examines: (1) the individual influence of marketing strategies on productivity; (2) the role of distribution systems in enhancing productivity; (3) the impact of internal collaboration among members; and (4) the combined effect of these three variables on the overall productivity of the Susu Mulya Abadi group.

Theoretically, this research contributes to the development of marketing and operational management, particularly in the context of the smallholder livestock industry. Practically, the

results are expected to serve as a reference for dairy farmer groups in increasing productivity through the implementation of more targeted marketing strategies, improved distribution systems, and strengthened collaboration among members. While the detailed results are presented in the analysis section, it can be initially suggested that increasing productivity may be achieved through promotional strategies based on market segmentation, the adoption of efficient distribution technologies, and the reinforcement of a collaborative work culture among farmers and group leaders.

LITERATURE REVIEW AND DEVELOPMENT HYPOTHESIS

Marketing strategy is the basic approach used by business units to achieve predetermined goals through decisions regarding target markets, the marketing mix (4Ps: product, price, place, promotion), and marketing cost planning. It plays a critical role in enhancing product competitiveness, including for local dairy products.

. Without an effective marketing strategy, even high-quality products will struggle to gain recognition among consumers. Previous research by Sucinda et al. (2021) and Pangastuti & Nurhadi (2021) showed that marketing strategy has a significant impact on increasing business productivity, both in the craft and agribusiness sectors.

In addition to marketing strategy, the distribution system is also essential in ensuring that products reach consumers on time and in good condition

. According to Permata & Suwardi (2022), an efficient distribution system supports stable product supply and pricing. Poorly managed distribution can lead to product damage, delivery delays, and declining customer satisfaction. Research by Dewantara (2020) shows that the distribution system significantly impacts productivity, particularly in the context of economic equity and operational efficiency.

In addition to strategy and distribution, collaboration among group members is key to achieving collective goals. Good collaboration creates synergy and efficiency, facilitates coordination, communication, and problem-solving. Anggraeni & Saragih (2022) emphasize that collaboration within work groups can increase productivity through mutual trust and shared responsibility. In the context of a dairy group, collaboration allows members to share information, knowledge, and resources that support smooth production and product distribution.

Based on the theory, previous research results, and logical arguments, the following hypothesis can be formulated: H1: Marketing strategy influences the productivity of the Mulya Abadi milk group. H2: Distribution system influences the productivity of the Mulya Abadi milk group. H3: Cooperation influences the productivity of the Mulya Abadi milk group. H4: Marketing

strategy, distribution system, and cooperation simultaneously influence the productivity of the Mulya Abadi milk group.

RESEARCH METHODS

Utilizing a quantitative framework and survey methodology, this research investigates the extent to which marketing efforts, distribution practices, and teamwork contribute to productivity within the Mulya Abadi Dairy Group in Pudak District. Utilizing a causal research design, this study aims to examine the cause-and-effect relationships between the independent and dependent variables by conducting hypothesis testing. This approach is considered appropriate as it provides an objective and measurable understanding of the extent to which each variable influences the productivity outcomes within the dairy group.

The research object is the Mulya Abadi Milk Group, which serves as a representation of rural-based dairy industry operations. The participants in this study consist of active dairy farmers who are members of the group. The total population is 330 individuals, A sample of 77 respondents was determined using Slovin's formula with a 10% margin of error. To minimize sampling bias, the study adopted a simple random sampling technique, providing each population member with an equal chance of selection.

This study examines four key variables, including three independent variables and one dependent variable. The first independent variable, marketing strategy (X1), is defined as a structured approach to reaching target markets, involving elements such as product development, pricing, and promotional initiatives. The second independent variable, the distribution system (X2), pertains to the effective movement of products from producers to end-users and includes indicators such as distribution points, timeliness, product handling, and information flow.

The third is cooperation (X3), encompassing elements such as teamwork, coordination, communication, comfort in collaboration, and conflict management within the group. The dependent variable is productivity (Y), defined as the effectiveness in utilizing available resources to produce milk. Productivity is measured through indicators such as individual capability, output improvement, motivation at work, personal growth, quality, and overall efficiency.

The data collection process employed two main instruments: structured questionnaires and semi-structured interviews. The questionnaires were constructed based on a five-point Likert scale, spanning from “Strongly Disagree” (1) to “Strongly Agree” (5), and were intended to thoroughly measure all relevant variables in the study. Before deployment, the tools undergo validation and reliability testing to ensure measurement accuracy. To enrich the quantitative findings, interviews were also conducted with central figures such as group leaders and administrators for deeper contextual insights.

The data were analyzed using SPSS version 26 software. Instrument validity was verified using Pearson's Product Moment correlation method, with items deemed valid if their correlation

coefficient surpassed the threshold value. Instrument reliability was evaluated through Cronbach's Alpha, where values above 0.6 indicated acceptable internal consistency. Before conducting regression analysis, classical assumption testing was carried out. This included the Kolmogorov-Smirnov test to evaluate data normality, multicollinearity checks through Tolerance values exceeding 0.1 and VIF scores below 10, and the Glejser test to identify the presence of heteroscedasticity. Once all classical assumptions were satisfied, A multiple linear regression analysis was utilized to assess how the independent variables influence productivity. The F-test was applied to evaluate the collective effect of all variables, while t-tests were conducted to analyze the individual impact of each variable. Hypothesis testing was carried out at a 5% significance level ($\alpha = 0.05$), with results considered statistically significant when the p-value was below 0.05. This approach offered a structured and evidence-based method for identifying the key factors affecting productivity within local dairy farming groups.

RESEARCH RESULTS AND DISCUSSION

This study was conducted on 77 respondents who are active members of the Mulya Abadi Milk Group in Pudak District, Ponorogo Regency. Respondents were randomly selected using simple random sampling from a population of 330 dairy farmers. The respondents exhibited diverse characteristics in terms of age, educational background, and dairy farming experience. Most respondents had more than five years of experience in the livestock business, while others were classified as novice farmers with less than three years of experience.

To understand the characteristics of each research variable, descriptive analysis was conducted using statistical indicators such as the minimum, maximum, mean, and standard deviation. The results are as follows:

Variable	N	Minimum	Maximum	Mean	Standard Deviation
Marketing Strategy (X1)	77	2.80	5.00	4.02	0.56
Distribution System (X2)	77	2.60	5.00	3.91	0.60
Cooperation (X3)	77	3.00	5.00	4.15	0.48
Productivity (Y)	77	3.00	5.00	4.08	0.52

Before being distributed, the questionnaire used for data collection was subjected to both validity and reliability assessments. The validity test showed that all items had correlation coefficients higher than the minimum required r-value (0.224), confirming their appropriateness. Meanwhile, reliability testing demonstrated that each variable achieved a Cronbach's Alpha score above 0.6, indicating acceptable internal consistency. Therefore, the dataset was considered reliable and appropriate for subsequent statistical analysis.

To offer an overall understanding of respondents' perceptions, descriptive statistics were calculated for the four research variables. The mean score for the marketing strategy variable (X1) was 4.02 with a standard deviation (SD) of 0.56, a minimum score of 2.80, and a maximum of 5.00. The distribution system variable (X2) showed an average of 3.91 with an SD of 0.60, ranging from 2.60 to 5.00. The cooperation variable (X3) recorded a mean of 4.15 and SD of 0.48, with scores between 3.00 and 5.00. Lastly, the productivity variable (Y) had an average of 4.08 with an SD of 0.52, with minimum and maximum values of 3.00 and 5.00, respectively. All variables fell within the high category, indicating that respondents generally held favorable views regarding marketing, distribution, cooperation, and productivity in the group.

Classical assumption tests were carried out prior to conducting the regression analysis. The Kolmogorov-Smirnov test confirmed the normality of data distribution with a significance level exceeding 0.10. The multicollinearity test yielded VIF values below 10 and Tolerance values above 0.10, suggesting no multicollinearity issues among the independent variables. Additionally, the Glejser test found no indications of heteroscedasticity, as all significance values were greater than 0.10. These results confirm that the regression model meets the assumptions required for valid hypothesis testing.

The findings from the multiple linear regression analysis indicated that marketing strategy, distribution system, and cooperation each exerted a significant impact on productivity. Based on the t-test, the marketing strategy variable produced a significance value below 0.05, leading to the acceptance of H1. The distribution system also had a significant effect on productivity ($p < 0.05$), supporting H2. The cooperation variable also showed a statistically significant effect on productivity ($p < 0.05$), supporting hypothesis H3. In addition, the F-test results indicated that the joint effect of the three variables significantly influenced the productivity of the milk group, as reflected by an F-value greater than the critical threshold and a p-value below 0.05, thereby confirming hypothesis H4.

Interpretation of these findings highlights the essential role of marketing strategies in expanding consumer reach, particularly through increased use of social media and personalized outreach to loyal customers. The implementation of a more efficient distribution system—such as scheduled deliveries and enhanced storage management—has improved consumer trust and streamlined product turnover. Moreover, active cooperation among group members, including task sharing,

effective communication, and mutual assistance in production, has significantly contributed to higher productivity levels. In summary, the findings address the research questions and reinforce the conclusion that integrated strategies in marketing, distribution, and cooperation are essential for enhancing the operational effectiveness of dairy producer groups.

CONCLUSION

The findings from the data analysis and discussion indicate that marketing strategies, distribution systems, and collaboration have a significant and positive impact on the productivity of the Mulya Abadi Dairy Group in Pudak District, Ponorogo, both when examined individually and in combination. Well-structured marketing efforts—particularly those involving market targeting, product development, pricing strategies, and promotional activities—have effectively enhanced market penetration and the competitiveness of locally produced dairy goods. In addition, a streamlined distribution system contributes substantially to the timely and efficient delivery of milk products, ensuring quality preservation throughout the process. Furthermore, collaboration among group members—through effective coordination, transparent communication, mutual comfort in teamwork, and cooperative problem-solving—helps foster a supportive and productive working environment.

Practically, the results of this study imply that dairy groups can improve overall productivity by strengthening digital-based promotions, building an integrated internal logistics system, and reinforcing the values of togetherness and teamwork. Improved marketing strategies can reach more potential consumers, while an organized distribution system allows products to reach consumers more quickly and safely. Strong collaboration also creates a sense of belonging within the group, which will strengthen business sustainability.

However, this study has several limitations. First, the scope of the study was limited to one dairy farming group in one sub-district, so the results cannot necessarily be generalized to similar groups in other areas. Second, the approach used was solely quantitative, so it failed to delve deeper into qualitative aspects such as the group's internal social dynamics. Furthermore, the study did not consider external variables such as the role of government, weather conditions, or market price fluctuations, which could also potentially impact productivity.

For future research, it is recommended that the scope be expanded to include farmer groups in several regions with different characteristics to obtain more comprehensive and comparable results. Future researchers are also expected to use a mixed methods approach to strengthen quantitative data with in-depth qualitative findings. Furthermore, it is important to consider external variables such as policy support, market prices, or the influence of technology in efforts to increase dairy group productivity. Further research should also evaluate training interventions or mentoring programs to improve the management and operations of farmer groups.

AWARD/THANK YOU NOTE

The author sincerely extends heartfelt appreciation to all individuals and institutions who have offered their support and contributions throughout the preparation and execution of this research. Special thanks are extended to the University of Muhammadiyah Ponorogo, especially the Faculty of Economics and Management Study Program, which has provided the opportunity and facilities to complete this research. The author also conveys sincere gratitude to Dr. Heri Wijayanto, ST., MM., M.Kom., CDMP, and Mr. La Ode Sugianto, S.Pd., MM., for their invaluable guidance, direction, and constructive feedback throughout the preparation of this thesis.

The author also expresses sincere appreciation to the Mulya Abadi Milk Group in Pudak District, Ponorogo, for their willingness to participate in this research and for providing valuable time and information that greatly assisted in data collection. He further expresses heartfelt appreciation to his beloved family, friends, and colleagues for their unwavering prayers, moral support, and encouragement throughout the course of this research. The successful completion of this study would not have been possible without the assistance and support of many individuals.

REFERENCES

Ekananda, M. (2014). *Analisis data time series* (Vol. I). Mitra Wacana Media.

Soeratno, M. E., & Arsyad, L. (2003). *Metode penelitian untuk ekonomi dan bisnis* (Cetakan ke-). UPP Akademi Manajemen Perusahaan YKPN.

Ghozali, I. (2018). *Aplikasi analisis multivariate dengan program IBM SPSS 25*. Universitas Diponegoro.

Santoso, S. (2012). *Aplikasi SPSS pada statistik multivariat* (Ed. pertama). Alex Media Komputindo.

Sarjono, H., & Julianita, W. (2011). *SPSS vs LISREL: Sebuah pengantar, aplikasi untuk riset* (I. Gautama, Ed.). Salemba Empat.

Alhuda, S. (2021). Strategi pemasaran ayam kampung di Bandar Lampung. *REVENUE: Jurnal Manajemen Bisnis Islam, 2*(2). https://doi.org/10.24042/revenue.v2i2.10272

Azizah, S., Shofiyyah, R., Firmansyah, F., Ramadhan, A. M. W., Aprylasari, D., & Irsyan, N. A. (2024). Tantangan & peluang peternakan cagar alam Besowo. Yayasan Drestana Pelita Indonesia.

Miati, I., & Tresna, P. W. (2020). Bauran pemasaran pada Batik Gendheis Kota Banjar. *Pemikiran dan Penelitian Administrasi Bisnis dan Kewirausahaan, 5*(2). https://doi.org/10.24198/adbispreneur.v5i2.26538

Nuzwan Sudarsiana, M. M., & Yoedani, M. M. (2022). Analisis statistik regresi linier berganda. *Seniman Transaction, 2*(2), 1–11.

Purnomo, R. A. (2016). Analisis statistik ekonomi dan bisnis dengan SPSS. In P. C. Ambarwati (Ed.), *CV Wade Group*.

Abdurrasyid, Z. F., & Fariyanti, A. (2024). Pengaruh kemitraan terhadap produksi dan pendapatan peternak sapi perah di Desa Pinggirsari Kabupaten Bandung. Institut Pertanian Bogor.

Anugrah, I. S., Purwantini, T. B., & Erwidodo, N. (2021). Milk collection points: Inovasi kemitraan usaha ternak sapi perah di Pangalengan-Bandung Selatan. *Analisis Kebijakan Pertanian, 19*(1), 1–18. https://doi.org/10.21082/akp.v19n1.2021.1-18

Azizah, Z., & Ali, H. (2025). Pengaruh lingkungan eksternal, inovasi produk dan strategi pemasaran terhadap peningkatan produktivitas perusahaan. *Jurnal Greenation Ilmu Teknik, 2*(4), 164–174. https://doi.org/10.38035/jgit.v2i4

Badan Pusat Statistik (BPS). (2024). *Kecamatan Pudak dalam angka 2024*. BPS Ponorogo.

Nurfaizi, N. G., & Romadlon, F. (2024). Analysis of dairy supply chain practices and their impact on food loss in Banyumas Regency, Indonesia. *Jurnal Teknologi dan Manajemen Agroindustri, 13*(2), 152–165. https://doi.org/10.21776/ub.industria.2024.013.02.3

Puspitasari, N., & Arjogunawan, D. (2023). Strategi pemasaran susu sapi perah dalam meningkatkan perekonomian keluarga di Desa Pudak Kulon Kecamatan Pudak Kabupaten Ponorogo. *Global, 7*(1), 67–74.

Rahmah, F., Basalamah, S., Bahari, A. F., & Basalamah, J. (2023). Pengaruh lingkungan kerja dan kerjasama tim terhadap produktivitas kerja karyawan. *Center of Economic Students Journal, 6*(1), 91–102. https://doi.org/10.56750/csej.v6i1.574

Sugiyono. (2022). *Metode penelitian kuantitatif, kualitatif, dan R&D* (Edisi 2). Alfabeta.

Rachmawati, A., Indrati, R., Wanusmawatie, I., Qosimah, D., Azizah, S., & Wati, A. M. (2025). Intensifikasi pemeliharaan domba dengan pendekatan sumber daya alam dan penguatan kelembagaan di Desa Besowo Kediri. *PROFICIO: Jurnal Abdimas FKIP UTP, 6*(1). https://doi.org/10.36728/jpf.v6i1.4071

Sunarto, D. M. N. S., Widyas, N., Pramono, A., & Prastowo, S. (2020). Peningkatan kapasitas tata laksana kesehatan ternak sapi potong di Pelemrejo, Andong, Boyolali. *PRIMA: Journal of Community Empowering and Services, 4*(2). https://doi.org/10.20961/prima.v4i2.42574

Syahputri, A. Z., Fallenia, F. D., & Syafitri, R. (2023). Kerangka berfikir penelitian kuantitatif. *Ilmu Pendidikan dan Pengajaran, 2*(1), 161–166.

Syuhada, R., Isyanto, P., & Yani, D. (2023). Analisis strategi pemasaran dalam meningkatkan penjualan pada Café & Restoran Kokok Petok di Cimalaya Wetan. *Ekonomi Manajemen dan Bisnis, 24*(1). https://doi.org/10.29103/e-mabis.v24i1.1011

IMAGES, GRAPHS AND TABLES

Chart 1 Respondent Characteristics Test (Gender)

GENDER					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Man	53	68.8	68.8	68.8
	Woman	24	31.2	31.2	100.0
	Total	77	100.0	100.0	

Chart 1 Respondent Characteristics Test (Age)

AGE					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	> 35 years	17	22.1	22.1	22.1
	21 - 25 years old	24	31.2	31.2	53.2
	26 - 30 years old	24	31.2	31.2	84.4
	31 - 35 years old	12	15.6	15.6	100.0
	Total	77	100.0	100.0	

Chart 2 Respondent Characteristics Test (Frequency)

FREQUENCY					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	> 6 years	17	22.1	22.1	22.1
	12 years old	14	18.2	18.2	40.3
	3 - 4 years	32	41.6	41.6	81.8
	5 - 6 years	14	18.2	18.2	100.0
	Total	77	100.0	100.0	

Chart 4 Respondents' Answers to the Marketing Strategy Variable (X1)

Question	Respondents' Answers					Total
	STS	TS	N	S	SS	
Mulya Abadi Milk Group has chosen the right market for its milk products.	9	54	11	3	0	77
Farmers get sufficient information regarding the market targeted by the Mulya Abadi milk group.	13	39	21	3	1	77
Do you feel that the milk products produced are of good quality?	11	40	19	6	1	77
The pricing of dairy products is in accordance with the quality offered.	14	41	17	4	1	77
The promotion carried out by the Mulya Abadi milk group was effective in increasing milk sales.	13	34	19	8	3	77
Total	60	208	87	24	6	385

Chart 5 Respondents' Answers to the Distribution System Variable (X2)

Question	Respondents' Answers					Total
	STS	TS	N	S	SS	
The milk collection location by the Mulya Abadi milk group is easy to reach	19	45	10	3	0	77
The location of milk collection influences the farmer's decision to deposit milk.	13	36	20	5	3	77
Milk collection by the Mulya Abadi milk group is carried out on time according to the predetermined schedule.	16	36	21	4	0	77
Farmers are satisfied with the way milk is stored to maintain milk quality.	19	37	12	9	0	77
Farmers receive sufficient information regarding the procedure for depositing milk to the Mulya Abadi milk group.	14	36	22	5	0	77

Chart 6 Respondents' Answers to the Cooperation Variable (X3)

Question	Respondents' Answers					Total
	STS	TS	N	S	SS	
Cooperation between members of the milk group is going well.	14	41	20	2	0	77
Coordination between farmers and the Mulya Abadi milk group is running well.	18	37	17	5	0	77
Good communication is important in achieving the goal of optimal milk delivery.	12	35	24	5	1	77
Farmers feel comfortable interacting with members of the Mulya Abadi milk group	13	41	20	2	1	77
Problems or conflicts that occur in milk groups can be resolved well	14	32	24	5	2	77

Chart 7 Respondents' Answers to the Productivity Variable (Y)

Question	Respondents' Answers					Total
	STS	TS	N	S	SS	
Farmers feel they are capable of producing good quality milk to be submitted to the Mulya Abadi milk group.	11	53	11	1	1	77
Efforts made by the Mulya Abadi milk group help farmers increase milk production.	12	37	23	5	0	77
Farmers feel motivated to increase milk productivity. produced	9	37	21	10	0	77
Farmers receive sufficient training and support to improve skills in milk production	2	22	14	21	18	77
The quality of the milk produced meets the standards set by Mulya Abadi milk group	14	31	22	8	2	77
Efforts made by the Mulya Abadi milk group to help farmers in increasing the efficiency of milk production	8	40	22	7	0	77

Chart 8 Validity Test of Variable X1

Correlations							
		X1.1	X1.2	X1.3	X1.4	X1.5	TOTAL X1
X1.1	Pearson Correlation	1	.581**	.588**	.552**	.339**	.782**
	Sig. (2-tailed)		.000	.000	.000	.003	.000
	N	77	77	77	77	77	77
X1.2	Pearson Correlation	.581**	1	.353**	.552**	.302**	.729**
	Sig. (2-tailed)	.000		.002	.000	.008	.000
	N	77	77	77	77	77	77
X1.3	Pearson Correlation	.588**	.353**	1	.435**	.433**	.750**
	Sig. (2-tailed)	.000	.002		.000	.000	.000
	N	77	77	77	77	77	77
X1.4	Pearson Correlation	.552**	.552**	.435**	1	.391**	.778**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	77	77	77	77	77	77
X1.5	Pearson Correlation	.339**	.302**	.433**	.391**	1	.702**
	Sig. (2-tailed)	.003	.008	.000	.000		.000
	N	77	77	77	77	77	77
TOTAL X1	Pearson Correlation	.782**	.729**	.750**	.778**	.702**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	77	77	77	77	77	77
**. Correlation is significant at the 0.01 level (2-tailed).							

Chart 9 Test of Variable Validity (X2)

Correlations							
		X2.1	X2.2	X2.3	X2.4	X2.5	TOTAL X2
X2.1	Pearson Correlation	1	.408**	.296**	.260*	.189	.616**
	Sig. (2-tailed)		.000	.009	.023	.100	.000
	N	77	77	77	77	77	77
X2.2	Pearson Correlation	.408**	1	.260*	.239*	.229*	.658**
	Sig. (2-tailed)	.000		.023	.037	.045	.000
	N	77	77	77	77	77	77
X2.3	Pearson Correlation	.296**	.260*	1	.367**	.448**	.695**
	Sig. (2-tailed)	.009	.023		.001	.000	.000
	N	77	77	77	77	77	77
X2.4	Pearson Correlation	.260*	.239*	.367**	1	.437**	.700**
	Sig. (2-tailed)	.023	.037	.001		.000	.000
	N	77	77	77	77	77	77
X2.5	Pearson Correlation	.189	.229*	.448**	.437**	1	.682**
	Sig. (2-tailed)	.100	.045	.000	.000		.000
	N	77	77	77	77	77	77
TOTAL X2	Pearson Correlation	.616**	.658**	.695**	.700**	.682**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	77	77	77	77	77	77
**. Correlation is significant at the 0.01 level (2-tailed).							
*. Correlation is significant at the 0.05 level (2-tailed).							

Chart 10 Test of Variable Validity (X3)

Correlations							
		X3.1	X3.2	X3.3	X3.4	X3.5	TOTAL X3
X3.1	Pearson Correlation	1	.274*	.327**	.254*	.260*	.578**
	Sig. (2-tailed)		.016	.004	.026	.022	.000
	N	77	77	77	77	77	77
X3.2	Pearson Correlation	.274*	1	.489**	.402**	.414**	.743**
	Sig. (2-tailed)	.016		.000	.000	.000	.000
	N	77	77	77	77	77	77
X3.3	Pearson Correlation	.327**	.489**	1	.509**	.349**	.768**
	Sig. (2-tailed)	.004	.000		.000	.002	.000
	N	77	77	77	77	77	77
X3.4	Pearson Correlation	.254*	.402**	.509**	1	.324**	.704**
	Sig. (2-tailed)	.026	.000	.000		.004	.000
	N	77	77	77	77	77	77
X3.5	Pearson Correlation	.260*	.414**	.349**	.324**	1	.697**
	Sig. (2-tailed)	.022	.000	.002	.004		.000
	N	77	77	77	77	77	77
TOTAL X3	Pearson Correlation	.578**	.743**	.768**	.704**	.697**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	77	77	77	77	77	77
*. Correlation is significant at the 0.05 level (2-tailed).							
**. Correlation is significant at the 0.01 level (2-tailed).							

Chart 11 Test of Validity of Variable (Y)

Correlations								
		Y1.1	Y2.2	Y3.3	Y4.4	Y5.5	Y6.6	TOTALLY
Y1.1	Pearson Correlation	1	.499**	.449**	.081	.297**	.324**	.615**
	Sig. (2-tailed)		.000	.000	.486	.009	.004	.000
	N	77	77	77	77	77	77	77
Y2.2	Pearson Correlation	.499**	1	.440**	.129	.212	.214	.599**
	Sig. (2-tailed)	.000		.000	.262	.064	.062	.000
	N	77	77	77	77	77	77	77
Y3.3	Pearson Correlation	.449**	.440**	1	.279*	.393**	.276*	.718**
	Sig. (2-tailed)	.000	.000		.014	.000	.015	.000
	N	77	77	77	77	77	77	77
Y4.4	Pearson Correlation	.081	.129	.279*	1	.363**	.189	.616**
	Sig. (2-tailed)	.486	.262	.014		.001	.100	.000
	N	77	77	77	77	77	77	77
Y5.5	Pearson Correlation	.297**	.212	.393**	.363**	1	.387**	.712**
	Sig. (2-tailed)	.009	.064	.000	.001		.001	.000
	N	77	77	77	77	77	77	77
Y6.6	Pearson Correlation	.324**	.214	.276*	.189	.387**	1	.592**
	Sig. (2-tailed)	.004	.062	.015	.100	.001		.000
	N	77	77	77	77	77	77	77
TOTALLY	Pearson Correlation	.615**	.599**	.718**	.616**	.712**	.592**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	77	77	77	77	77	77	77
**. Correlation is significant at the 0.01 level (2-tailed).								
*. Correlation is significant at the 0.05 level (2-tailed).								

Chart 12 Reliability Test of Variable (X1)

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X1.1	20.31	32,849	.737	.762
X1.2	20.19	31,896	.657	.758
X1.3	20.12	31,394	.679	.753
X1.4	20.23	31,260	.715	.749
X1.5	20.01	30,829	.603	.756
TOTAL X1	11.21	9,667	1,000	.790

Appendix 13 Variable Reliability Test (X2)

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X2.1	19.73	28,306	.527	.747
X2.2	19.35	26,573	.546	.733
X2.3	19.52	27,095	.610	.731
X2.4	19.55	26,356	.602	.725
X2.5	19.45	27,172	.593	.733
TOTAL X2	10.84	8,239	1,000	.691

Chart 14 Reliability Test of Variable (X3)

S

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X3.1	20.05	29,813	.486	.767
X3.2	20.06	27,614	.667	.736
X3.3	19.86	27,203	.696	.730
X3.4	20.00	28,342	.626	.746
X3.5	19.84	27,449	.598	.741
TOTAL X3	11.09	8,557	1,000	.738

Chart 15 Reliability Test of Variable (Y)

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Y1.1	27.75	41,925	.548	.735
Y2.2	27.55	41,199	.516	.732
Y3.3	27.40	39,402	.648	.714
Y4.4	26.42	38,430	.488	.724
Y5.5	27.43	38,485	.629	.710
Y6.6	27.45	41,356	.509	.734
TOTALL Y	14.91	11,794	1,000	.700

Chart 16 Normality Test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		77
Normal Parametersa,b	Mean	.0000000
	Standard Deviation	2.81285351
Most Extreme Differences	Absolute	.080
	Positive	.080
	Negative	-.042
Test Statistics		.080
Asymp. Sig. (2-tailed)		.200c,d
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		
d. This is a lower bound of the true significance.		

Chart 17 Multicollinearity Test

Coefficientsa			
Model		Collinearity Statistics	
		Tolerance	VIF
1	TOTAL X1	.715	1,399
	TOTAL X2	.588	1,700
	TOTAL X3	.689	1,451
a. Dependent Variable: TOTAL			

Chart 18 Heteroscedasticity Test

Coefficientsa						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2,082	.969		2,150	.035
	TOTAL X1	.096	.078	.168	1,232	.222
	TOTAL X2	-.107	.093	-.173	-1.146	.255
	TOTAL X3	.015	.085	.024	.174	.862
a. Dependent Variable: ABS_RES						

Chart 19 Multiple Regression Analysis Test

Coefficientsa						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6,554	1,553		4,221	.000
	TOTAL X1	.518	.125	.469	4.138	.000
	TOTAL X2	-.011	.150	-.009	-.075	.940
	TOTAL X3	.241	.136	.205	1,774	.080
a. Dependent Variable: TOTAL						

Chart 20 T-Test (Partial)

Coefficientsa						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6,554	1,553		4,221	.000
	TOTAL X1	.518	.125	.469	4.138	.000
	TOTAL X2	-.011	.150	-.009	-.075	.940
	TOTAL X3	.241	.136	.205	1,774	.080
a. Dependent Variable: TOTAL						

Chart 21 F Test (Simultaneous)

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	295,041	3	98,347	11,939	.000b
	Residual	601,323	73	8,237		
	Total	896,364	76			
a. Dependent Variable: TOTAL						
b. Predictors: (Constant), TOTALX3, TOTALX1, TOTALX2						

Chart 22 R and R^2 Test

Model Summary				
Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	.574a	.329	.302	2,870
a. Predictors: (Constant), TOTALX3, TOTALX1, TOTALX2				
b. Dependent Variable: TOTAL				