The Effect Of Perceived Of Usefulness And Perceived Ease Of Use On Online Purchasing Behavior With E-Wallet User Satisfaction As Intervening
(Study On Millennials As E-Wallet Users In Guntur District, Demak Regency)

Eka Puji Lestari 1, Firdaus 2, Nurhayati 3, Irmaya Yulianti 4,
Tengku Muhammad Ikhfan 5, Endah Ratnasari 6

1-6 Departement of Management, Faculty of Economics, University of Muhammadiyah Semarang

Email Corespondent : fir@unimus.ac.id

Abstract : This research is a type of quantitative research with non-probability methods. The population of this study is unknown, so it uses the Lemeshow formula, and the number of samples used is 100 respondents. The data collection technique used convenience sampling with the distribution of questionnaires that had been tested for the validity and reliability of the data. The data analysis method used consisted of descriptive analysis, evaluation of the outer model, evaluation of the inner model, and evaluation of indirect effects (mediation). The data analysis tool in this study uses the SmartPLS 3.0 software. The results of this study indicate that perceived of usefulness has a positive and insignificant effect on online purchasing behavior with a significance value of 1.326 < 1.96. Perceived of usefulness has a positive and significant effect on e-wallet user satisfaction with a significance value of 2.685 < 1.96. E-wallet user satisfaction has a positive and significant effect on online purchasing behavior with a significance value of 3.794 < 1.96. Perceived ease of use has a positive and significant effect on e-wallet user satisfaction with a significance value of 8.397 < 1.96. E-wallet user satisfaction has a positive and significant effect in mediating the relationship between perceived of usefulness and online purchasing behavior with a significance value of 2.685 < 1.96.

Keywords: Perceived of usefulness, perceived ease of use, online purchasing behavior, e-wallet user satisfaction, and SmartPLS 3.0.

INTRODUCTION

Technological advances continue to develop very rapidly and give birth to a digital society (Ngafifi, 2014). One of the technological developments is e-wallet. According to Anggraeni (2019), in 2018, Bank Indonesia recorded e-wallet transactions in Indonesia amounting to IDR 21.3 trillion. This value is predicted to continue to increase with the development of the cash-less society trend to IDR 355.7 trillion in 2023. There are 5 e-wallet platforms that are popular in the Indonesian market, namely Go-Pay (87%), OVO (80 .4%), DANA (75.6%), Shopeepay (53.2%), and LinkAja (47.5%) (Lidwina, 2020).

The millennial generation is very close to technology, so technology has become an important part in influencing the millennial journey, which has become more instantaneous through digitalization (Ruastiti, 2020). According to Yuswohady (2016), the millennial generation is the generation born in the early 1980 to 2000 period. Millennials are a generation that is flexible and likes freedom but does not like unlimited freedom (Setiawan...
and puspitasari, 2018). The millennial movement prefers to make digital payments rather than using cash (Houston, 2019). According to Rif’ah (2019), the millennial generation is used to shopping or making transactions without cash, such as using debit cards, credit cards or e-wallets.

The choice of payment method is associated with purchasing behavior (Gafeeva, Hoelzl, and Roschk 2017). Online purchasing behavior is a new method of shopping, which is fundamentally different from behavior observed in the physical world (Vyas, Pandya, and Shukla 2017). Online purchasing is the activity of selling and purchasing goods or services via internet facilities (Astasari, 2019). Furthermore, there are several variables that can be significant predictors of online purchasing behavior, namely perceived usefulness, perceived ease of use, and e-wallet user satisfaction.

First, for perceived usefulness, there are several studies that show that perceived usefulness has a positive relationship with online purchasing behavior and e-wallet user satisfaction. The research results of Suhir, Suyadi, and Riyadi (2014), show that the perceived usefulness variable partially has a significant effect on online purchasing behavior. According to Candrawati, Handayani, and Kusnawati (2021), perceived usefulness has a positive and significant influence on interest in using e-wallets. According to Devina (2016), perceived usefulness is a measure where the use of a technology is believed to be beneficial for everyone who uses it.

Second, for perceived ease of use, there are several studies that show that perceived ease of use has a positive relationship with e-wallet user satisfaction. Based on research by Widiyanti (2020), it is stated that there is a positive and significant influence of perceived ease of use on e-wallet user satisfaction. In the context of e-wallets, the perceived ease of use of the e-wallet system makes consumers emotionally indifferent to the actual amount of money paid (Khan, Belk, and Lees 2015).

Third, for e-wallet user satisfaction, there are several studies that show that e-wallet user satisfaction has a positive relationship with online purchasing behavior. According to Lin, Wang, and Hajli (2019) e-wallet user satisfaction has a positive influence on online purchasing behavior. E-wallet user satisfaction is important because consumers interact with others through social commerce features and social media, and these processes can significantly influence online purchasing behavior (Yoon and Occena, 2015). According to Kotler and Keller (2013), customer satisfaction is the level of someone's feelings after comparing what they feel (performance or results) with expectations. In addition, previous research was able to prove the mediating role of e-wallet user satisfaction on the influence of
perceived usefulness on online purchasing behavior (Alwie, 2021). Based on this description, the researcher formulated a research formulation, namely, what is the role of e-wallet user satisfaction in bridging the relationship between the influence of perceived usefulness and perceived convenience on e-wallet purchasing behavior in the Millennial Generation.

LITERATURE REVIEW

Perception of Usefulness

Gloria and Achyar (2018), stated that perceived usefulness is the efficiency a person feels in their life and work when using a particular system. In this case, the perception of Usefulness has a good causality on consumer behavior. This has been mentioned by Mujahidin (2020) Ramadany, & Artadita, (2022); Kaniska et al., (2023) in their research, saying that having a good perception of usefulness can increase a consumer's purchasing behavior, (H1). Apart from that, on several occasions the perception of usefulness turns out to have a significant influence on a consumer's satisfaction in purchasing on the internet. As this matter has been studied by Irahyani., (2022); Muzdalipah, & Mahmudi, (2023) said in the results of their study that perception of usefulness can trigger consumers to feel satisfaction with a service used by a consumer (H2).

Perceived Ease of Use

Ramadhan, Prasetyo, and Irviana (2016), stated that perceived ease of use is the extent to which someone believes that using a technology will be free from effort. On another occasion, according to Cudjoe (2015), perceived ease of use is the degree to which someone believes that using a particular technology or system is easy. Regarding perceived ease of use, several researchers have conducted this research, and the results are quite good, for example from research conducted by Mandasari & Giantari, (2017) said that perceived ease of use can increase consumer satisfaction in using online services, which applies to e-commerce. wallet, on another occasion Wiwoho., (2019) said that the perceived ease of use from consumers has a positive and significant impact on a consumer's satisfaction in using a service (H4).

Satisfaction of e-wallet users

According to Elegba and Ada (2019), satisfaction is an emotional response from affection towards an object or service provided by the producer. E-wallet (digital wallet) is a server-based payment transaction service using a smartphone with a payment method via scanning a QR code. E-wallets can be used as a transaction tool for online purchases and to transfer money between banks or other e-wallets (Kusuma & Syahputra, 2020). In other
research results previously stated by Esawe, (2022) said that consumer satisfaction in using e-wallets can influence consumer behavior in a good way, this has also been stated by Chalik & Faturohman., (2022), that the satisfaction felt by consumers in using e-wallets, turns out to have a positive impact on consumer behavior or ways of acting towards existing services or products (H3).

**Online purchasing behavior**

According to Indumathi and Dawood (2016), online purchasing behavior is a process where consumers search for, select, buy, and use products and services to meet their needs through online media. According to Setiadi (2010), purchasing behavior includes meaning, namely the actions of people who are directly involved in exchanging money for goods and services, and the decision-making process that determines these actions. In this case, the existing assumption says that to improve good online purchasing behavior among consumers, satisfaction of e-wallet users can be a bridge that can connect perception of usefulness and perceived ease of use towards online purchasing behavior, as in previous research conducted by Olivia & Marchya., (2022); Novira et al., (2024) who said that the perception of usefulness and perceived ease of use are indeed good things, but the satisfaction felt by consumers can be a trigger for consumers to behave well (H5).

![Framework 1](image)

**Framework 1.**

**RESEARCH METHODS**

This research is quantitative research with basic data taken from primary data. Primary data was obtained from a series of field data collection processes from respondents through questionnaires. The questionnaire in this research was designed on a scale of 1-5 with various instruments that had been determined for each indicator in the variables used, after which the
A questionnaire was distributed directly in Demak district, Central Java. The population in the research is the millennial generation as e-wallet users in Guntur District, Demak Regency. In this case, population is a generalized area consisting of research objects or subjects that have certain quantities and characteristics which are applied by researchers to study and then draw conclusions (Sugiyono, 2018). After determining the population, it turns out that it cannot be known for certain how much the population is, and to make it easier for researchers to sample data, a non-probability method is used, namely sampling without giving equal opportunities or opportunities to each element or member of the population selected as the sample. To determine the sample size for this study, the Lemeshow formula was used, because the population size is unknown. Lemeshow formula (1997): \[ n = \frac{Z^2 p (1-p)}{\alpha^2} \]

The data that has been collected in this research is then processed using data analysis using structural equation modeling (SEM) data analysis techniques with a partial least squares (PLS) approach. Evaluation of the research model was carried out on two elements in the Partial Least Square (PLS) approach, namely the measurement model and structural model (Hair et al, 2018; Hair et al, 2014; Wong, 2013) with applicable test provisions, for example validity, reliability, etc.

**DATA ANALYSIS AND DISCUSSION**

Description of respondents in the research, the total number of respondents was 100 respondents, with 60% women and 40% men, apart from that, the average age was 24-30 years, apart from that, 43% of respondents were married, and the remaining 57% were married, single or unmarried.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Composite Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Usefulness</td>
<td>0.913</td>
</tr>
<tr>
<td>Perceived Ease of Use</td>
<td>0.902</td>
</tr>
<tr>
<td>Customer satisfaction of e-wallet user</td>
<td>0.914</td>
</tr>
<tr>
<td>Online Purchasing Behaviour</td>
<td>0.884</td>
</tr>
</tbody>
</table>

Based on the results of the data processing carried out, the value obtained for each variable was not found to have a CR value below 0.7, meaning that this research was good and the variables used had valid values.
The Effect Of Perceived Of Usefulness And Perceived Ease Of Use On Online Purchasing Behavior With E-Wallet User Satisfaction As Intervening (Study On Millennials As E-Wallet Users In Guntur District, Demak Regency)

Table 3. Test Reliability

<table>
<thead>
<tr>
<th>Variable</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Usefulness</td>
<td>0.780</td>
</tr>
<tr>
<td>Perceived Ease of Use</td>
<td>0.718</td>
</tr>
<tr>
<td>Customer satisfaction of e-wallet user</td>
<td>0.723</td>
</tr>
<tr>
<td>Online Purchasing Behaviour</td>
<td>0.698</td>
</tr>
</tbody>
</table>

The existing data shows that not a single variable was found with an AVE value below 0.5, meaning that the research data has good (all indicators).

Table 4. Cross Loading

<table>
<thead>
<tr>
<th></th>
<th>Persepsi Kemampuan (X1)</th>
<th>Persepsi Kemudahan Penggunaan (X2)</th>
<th>Kepuasan Pengguna E-wallet (Z)</th>
<th>Perilaku Pembelian Online (Y)</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1.1</td>
<td>0.857</td>
<td>0.554</td>
<td>0.575</td>
<td>0.463</td>
</tr>
<tr>
<td>X1.2</td>
<td>0.834</td>
<td>0.641</td>
<td>0.645</td>
<td>0.598</td>
</tr>
<tr>
<td>X1.3</td>
<td>0.848</td>
<td>0.555</td>
<td>0.572</td>
<td>0.488</td>
</tr>
<tr>
<td>X1.4</td>
<td>0.842</td>
<td>0.557</td>
<td>0.571</td>
<td>0.479</td>
</tr>
<tr>
<td>X1.5</td>
<td>0.609</td>
<td>0.852</td>
<td>0.733</td>
<td>0.604</td>
</tr>
<tr>
<td>X2.2</td>
<td>0.481</td>
<td>0.839</td>
<td>0.701</td>
<td>0.573</td>
</tr>
<tr>
<td>X2.3</td>
<td>0.505</td>
<td>0.856</td>
<td>0.632</td>
<td>0.579</td>
</tr>
<tr>
<td>X2.4</td>
<td>0.670</td>
<td>0.813</td>
<td>0.729</td>
<td>0.625</td>
</tr>
<tr>
<td>Z.1</td>
<td>0.624</td>
<td>0.714</td>
<td>0.866</td>
<td>0.585</td>
</tr>
<tr>
<td>Z.2</td>
<td>0.617</td>
<td>0.749</td>
<td>0.880</td>
<td>0.627</td>
</tr>
<tr>
<td>Z.3</td>
<td>0.609</td>
<td>0.758</td>
<td>0.903</td>
<td>0.684</td>
</tr>
<tr>
<td>Y.1</td>
<td>0.477</td>
<td>0.659</td>
<td>0.622</td>
<td>0.848</td>
</tr>
<tr>
<td>Y.2</td>
<td>0.511</td>
<td>0.705</td>
<td>0.678</td>
<td>0.889</td>
</tr>
<tr>
<td>Y.3</td>
<td>0.534</td>
<td>0.474</td>
<td>0.486</td>
<td>0.803</td>
</tr>
</tbody>
</table>

Based on the table above, the cross-loading value for each research variable indicator has the highest cross-loading value for the variable it forms, compared to the cross-loading value of other variables. Thus, it can be said that the indicators used in this research have good discriminant reliable in the formulation of the variables.
1. The Influence of Perceived Usefulness on Online Purchasing Behavior

Perceived usefulness influences online purchasing behavior among the millennial generation of e-wallet users in Guntur District, Demak Regency. This is indicated by the path coefficient value of 0.195 with a significant t-statistics value of $1.326 < 1.96$. The results of this research show that perceived usefulness has a positive and insignificant effect on online purchasing behavior among the millennial generation of e-wallet users in Guntur District, Demak Regency.

Perceived usefulness has a positive and insignificant effect on online purchasing behavior, where perceived usefulness is the extent to which someone believes that using an e-wallet will improve their productivity performance in making payment transactions (Phonthanukitithaworn, Sellitto, and Fong, 2016). Online purchasing behavior is a process where consumers search for, select, buy, and use products and services to fulfill their needs through online media. A person's lifestyle in the world is expressed in their activities, interests, and opinions by adjusting their desires in choosing and consuming something (Indumathi and Dawood, 2016). In accordance with the stimulus organism response (SOR) theory, the research results obtained by researchers where in this study the perception of usefulness had a positive and insignificant effect on online purchasing behavior. This indicates that if a person's perceived usefulness increases, online purchasing behavior will also increase.

The results of this research are not in line with previous research from Desi and Endang (2018), which stated that perceived usefulness has a positive and significant effect on online purchasing behavior. However, the results of this research are in line with research conducted by Anastasia and Suwarno (2022) which stated that perceived usefulness has a positive and insignificant effect on online purchasing behavior. Although there are differences...
in populations, samples, and analysis methods. In Anastasia and Suwarno's research (2022), the population is students from the Muhammadiyah University of Surakarta, the sample is students from the Faculty of Economics and Business, Muhammadiyah University of Surakarta, aged between 20-25 years, and students who are willing to be respondents, the analysis method is multiple regression analysis. Meanwhile, the population of this research is the millennial generation of e-wallet users in Guntur District, Demak Regency, the sample uses the Lemeshow formula with 100 respondents, and the analysis method uses SEM-PLS.

2. The Influence of Perceived Usefulness on E-wallet User Satisfaction

Perception of usefulness influences e-wallet user satisfaction among the millennial generation of e-wallet users in Guntur District, Demak Regency. This is shown by the path coefficient value of 0.235 with a significant t-statistics value of 2.685 > 1.96. The results of this research show that perceived usefulness has a positive and significant effect on e-wallet user satisfaction among the millennial generation of e-wallet users in Guntur District, Demak Regency.

Perceived usefulness has a positive and significant effect on e-wallet user satisfaction, where perceived usefulness is the extent to which a person believes that using an e-wallet will improve their productivity performance in making payment transactions (Phonthanukitithaworn, Sellitto, and Fong, 2016). E-wallet user satisfaction is an emotional response from affection towards a server-based payment transaction service using a smartphone with a payment method via scanning a QR code on the e-wallet platform (Elegba and Ada, 2019). In accordance with the stimulus organism response (SOR) theory, the research results obtained by researchers where in this study the perception of usefulness has a positive and significant effect on e-wallet user satisfaction. This indicates that if a person's perceived usefulness increases, e-wallet user satisfaction will also increase.

3. The Influence of E-wallet User Satisfaction on Online Purchasing Behavior

E-wallet user satisfaction influences online purchasing behavior among the millennial generation of e-wallet users in Guntur District, Demak Regency. This is shown by the path coefficient value of 0.574 with a significant t-statistics value of 3.794 > 1.96. The results of this research show that e-wallet user satisfaction has a positive and significant effect on online purchasing behavior among the millennial generation of e-wallet users in Guntur District, Demak Regency.
E-wallet user satisfaction has a positive and significant effect on online purchasing behavior, where e-wallet user satisfaction is an emotional response from affection towards a server-based payment transaction service using a smartphone with a payment method via scanning a QR code on the e-wallet platform (Elegba and Ada, 2019). Online purchasing behavior is a process where consumers search for, select, buy, and use products and services to fulfill their needs through online media. A person's lifestyle in the world is expressed in their activities, interests, and opinions by adjusting their desires in choosing and consuming something (Indumathi and Dawood, 2016). In accordance with the stimulus organism response (SOR) theory, the research results obtained by researchers where in this study, e-wallet user satisfaction had a positive and significant effect on online purchasing behavior. This indicates that if someone's e-wallet user satisfaction increases, online purchasing behavior will also increase.

4. The Influence of Perceived Ease of Use on E-wallet User Satisfaction

Perception of ease-of-use influences e-wallet user satisfaction among the millennial generation of e-wallet users in Guntur District, Demak Regency. This is shown by the path coefficient value of 0.679 with a significant t-statistics value of 8.397 > 1.96. The results of this research show that perceived ease of use has a positive and significant effect on e-wallet user satisfaction in the millennial generation of e-wallet users in Guntur District, Regency. Demak.

Perceived ease of use has a positive and significant effect on e-wallet user satisfaction, where perceived ease of use is the extent to which a person believes that using a technology will be free from effort (Ramadhan, Prasetyo, and Irviana, 2016). E-wallet user satisfaction is an emotional response from affection towards a server-based payment transaction service using a smartphone with a payment method via scanning a QR code on the e-wallet platform (Elegba and Ada, 2019). In accordance with the stimulus organism response (SOR) theory, the research results obtained by researchers where in this study the perception of ease of use had a positive and significant effect on e-wallet user satisfaction. This indicates that if a person's perception of ease-of-use increases, e-wallet user satisfaction will also increase.

5. The Mediating Role of E-wallet User Satisfaction in the Relationship Between Perceived Usefulness and Online Purchasing Behavior

E-wallet user satisfaction mediates the relationship between perceived usefulness and online purchasing behavior among the millennial generation of e-wallet users in Guntur
District, Demak Regency. This is indicated by the indirect effect value of 0.135 and t-statistics 2.685 > 1.96. The results of this research show that e-wallet user satisfaction has a positive and significant effect in mediating the relationship between perceived usefulness and online purchasing behavior among the millennial generation of e-wallet users in Guntur District, Demak Regency. This mediation is full mediation because the influence of perceived usefulness on online purchasing behavior is not significant, while the influence of perceived usefulness on e-wallet user satisfaction and e-wallet user satisfaction on online purchasing behavior is significant.

Apart from that, to prove that e-wallet user satisfaction can mediate the relationship between perceived usefulness and online purchasing behavior, it can be proven by comparing the path coefficient values H2 + H3 with H1. If the value of H2 + H3 > H1, then e-wallet user satisfaction can mediate the relationship between perceived usefulness and online purchasing behavior. In this study, the path coefficient value H2 + H3 (0.235+0.574) = 0.809 > H1 = 0.195 with a significant t-statistics value H2 + H3 (2.685+3.794) = 6.479 > H1 = 1.326. This proves that e-wallet user satisfaction has a positive and significant effect in mediating the relationship between perceived usefulness and online purchasing behavior.

Perceived usefulness has an important role in the online purchasing behavior process. Perceived usefulness influences a person's satisfaction in using e-wallet which ultimately determines online purchasing behavior. Perceived usefulness is the extent to which a person believes that using an e-wallet will improve their performance and productivity in making payment transactions (Phonthanukitithaworn, Sellitto, and Fong, 2016). Online purchasing behavior is a process where consumers search for, select, buy, and use products and services to fulfill their needs through online media. A person's lifestyle in the world is expressed in their activities, interests, and opinions by adjusting their desires in choosing and consuming something (Indumathi and Dawood, 2016). E-wallet user satisfaction is an emotional response from affection towards a server-based payment transaction service using a smartphone with a payment method via scanning a QR code on the e-wallet platform (Elegba and Ada, 2019). In accordance with the stimulus organism response (SOR) theory, the research results obtained by researchers where in this study e-wallet user satisfaction has a positive and significant effect in mediating the relationship between perceived usefulness and online purchasing behavior in the millennial generation of e-wallet users in Guntur District, Demak Regency. This means that if someone gets satisfaction from using e-wallet, then the person's perceived usefulness will increase so that someone will carry out online purchasing behavior.
CONCLUSION

Based on the results of research and discussion regarding the influence of perceived usefulness and perceived ease of use on online purchasing behavior with e-wallet user satisfaction as an intervening (study of the millennial generation as e-wallet users in Guntur District, Demak Regency) it can be concluded as follows: (1) Perceived usefulness has a positive and insignificant effect on online purchasing behavior, as seen from the path coefficient value of 0.195 with a significant t-statistics value of 1.326 < 1.96. This proves that perceived usefulness has no effect on online purchasing behavior, so H1 is rejected. (2) Perceived usefulness has a positive and significant effect on e-wallet user satisfaction, as seen from the path coefficient value of 0.235 with a significant t-statistics value of 2.685 > 1.96. This proves that perceived usefulness has a positive and significant effect on e-wallet user satisfaction, so H2 is accepted. (3) E-wallet user satisfaction has a positive and significant effect on online purchasing behavior, as seen from the path coefficient value of 0.574 with a significant t-statistics value of 3.794 > 1.96. This proves that e-wallet user satisfaction has a positive and significant effect on online purchasing behavior, so H3 is accepted. (4) Perception of ease of use has a positive and significant effect on e-wallet user satisfaction, as seen from the path coefficient value of 0.679 with a significant t-statistics value of 8.397 > 1.96. This proves that perceived ease of use has a positive and significant effect on e-wallet user satisfaction, so H4 is accepted. (5) E-wallet user satisfaction has a positive and significant effect in mediating the relationship between perceived usefulness and online purchasing behavior, as seen from the indirect influence value of 0.135 and t-statistics 2.685 > 1.96. Apart from that, it can also be seen from the path coefficient value $H_2 + H_3 (0.235+0.574) = 0.809 > H_1 = 0.195$ with a significant t-statistics value $H_2 + H_3 (2.685+3.794) = 6.479 > H_1 = 1.326$. This proves that e-wallet user satisfaction has a positive and significant effect in mediating the relationship between perceived usefulness and online purchasing behavior, so H5 is accepted.

SUGGESTION

Based on the conclusions previously expressed, to improve online purchasing behavior among the millennial generation of e-wallet users in Guntur District, Demak Regency, the following suggestions can be given: (1). It would be better for e-wallet companies such as Go-Pay, OVO, DANA, Shopeepay, LinkAja, and others to develop strategies that focus more on service features so that e-wallet users feel more perceived usefulness after using e-wallet so they will use e-wallet more often -wallet to carry out online purchasing behavior. (2). It would
be better for e-wallet companies such as Go-Pay, OVO, DANA, Shopeepay, LinkAja, and others to develop strategies that focus more on easier payment mechanisms so that e-wallet users experience a greater perception of ease of use so that e-wallet users will often use e-wallets to carry out online purchasing behavior. (3). It would be better if e-wallet companies such as Go-Pay, OVO, DANA, Shopeepay, LinkAja, and others develop their performance so that e-wallet users feel satisfied so that they will often use e-wallets to carry out online purchasing behavior. (4). Future research can use other different cities as research objects and samples. (5). It is hoped that further research can add other independent variables that can influence satisfaction and online purchasing behavior, so that the research becomes stronger. Apart from that, further research can use longitudinal research, to obtain concrete data.

BIBLIOGRAPHY


