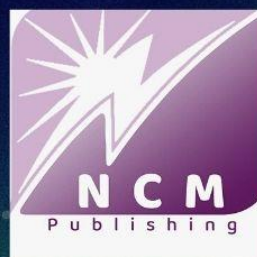

ORGANIZATIONAL BEHAVIOR
ARTIFICIAL INTELLIGENCE
EDUCATION
FINANCE
MARKETING
ECONOMICS
DIGITALIZATION
MANAGEMENT
ENTREPRENEURIAL INTENTION

CONTEMPORARY
EXPLORATION OF
SOCIAL SCIENCES IN THE
POST PANDEMIC ERA - 2

Editors

Assoc. Prof. Dr. Muhammad Ali Tarar

Assoc Prof. Dr. SevdA Aghamirza Aliyeva (Ahadova)



Contemporary Exploration of Social Sciences in the Post Pandemic Era - 2



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Assoc. Prof. Dr. Muhammad Ali Tarar
Assoc Prof. Dr. Sevda Aghamirza Aliyeva (Ahadova)

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CHAPTER 1

THE EFFECT OF LIQUIDITY, PROFITABILITY, LEVERAGE, UNDERWRITER'S REPUTATION AND TYPE OF INDUSTRY ON STOCK UNDERPRICING IN COMPANIES THAT IPO IN THE IDX PERIOD 2020-2021

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ABSTRACT

Underpricing is an initial public offering phenomenon that often occurs in the capital market and has been proven by researchers. This study aims to analyze the effect of the current ratio, return on assets, debt to equity ratio, reputation of the underwriter, and type of industry on underpricing. The sampling method used is purposive sampling on a sample of companies carrying out initial public offerings (IPOs) that are listed on the Indonesia Stock Exchange during the 2020-2021 period. The research method used Multiple Linear Regression Analysis, with Microsoft Excel and Eviews 9. The results of the study show that simultaneously the current ratio, return on assets, debt to equity ratio, reputation of the underwriter and type of industry affect stock underpricing by 55.35%. Partially, the current ratio has a negative effect on stock underpricing of 0.0480 < 0.05 and the debt to equity ratio has a positive effect on underpricing of 0.0002 < 0.05, while return on assets, underwriter reputation and type of industry have no significant effect on underpricing.

Keywords : Initial Public Offering, Underpricing, Liquidity (CR), Profitability (ROA), Leverage (DER), Underwriting Reputation reputasi underwriter and Industrial Type.

1. INTRODUCTION

The COVID-19 pandemic had significant impact on various sectors, including the economy and capital markets. The economic recession caused by the pandemic, governments and authorities have implemented measures such as reduce liquidity and injecting funds into the market to support economic recovery (Putra & Nababan, 2019). Technological advancements have played a crucial role in restoring community activities during the pandemic, leading to increased competition among entrepreneurs and prospective issuers. As a result, companies faced tight market competition and the need to secure large funds for operational activities and expansion. Funding source for companies include both internal and external options, with external sources often involving debt from banks or issuing shares (Zhan & Sukcharoensin, 2023)

When a company decides to go public and issue shares to the public for the first time, it is known as an initial public offering (IPO). This allows the company to access equity capital from the public, reducing the cost of funding its operations and investments. However, a common issue in IPOs is underpricing, where the share price on the primary market is lower than the secondary market price (Wang & Wang, 2021). Setting a fair price for the shares during the IPO is crucial, as underpricing events can occur if the share price drops significantly on the first day of trading. Underpricing is often caused by information asymmetry between companies, underwriters, and investors, which was heightened during the COVID-19 pandemic due to increased financial vulnerability (Mahardika & Ismiyanti, 2021). Underpricing negatively affects issuers as they receive less capital from the public than expected. Internal factors, such as financial statements and ratios, also play a role in underpricing. Ratios like the current ratio, return on equity, and debt-to-equity ratio are used by investors to assess a company's liquidity, profitability, and leverage, respectively. Higher profitability and lower leverage generally attract investors and can affect share prices (Song & Kutsuna, 2022)

One of the external factors that can influence stock underpricing is macroeconomic factors. In this study, we used underwriters, who are third parties bridging the needs of issuers and investors (Widyawati et al., 2019). Underpricing events are the responsibility of the underwriter; in carrying out their duties, the underwriter company determines the share price, and the sale of securities or shares on the primary market is the intervention of the underwriter (underwriter) (Khaira & Sudiman, 2019). It can be concluded that the underwriter has a very large influence on the level of underpricing. Another external factor that can affect underpricing is the type of industry. Each industrial group has certain characteristics that are different from those of other industrial groups. This variable indicator is needed because investors at one time were irrational and overly optimistic about an industry (Delingga, 2023)

Based on some data from previous research, there is a gap between the IPO price and the price on the secondary market. This proves that the level of stock underpricing events in companies with IPOs from 2020 to 2021 is still high and continues to occur, so companies need to take effective steps to minimize stock underpricing. The title of this research is *The Influence of Liquidity, Profitability, Leverage, Underwriter Reputation, and Type of Industry on Underpricing of Shares in Companies Conducting IPOs in Indonesia Stock Exchange in 2020-2021*.

1.1 Research Problem and Research Question

This study develops several research questions which are as follows:

1. Does the liquidity affect stock underpricing?
2. Does the profitability affect stock underpricing?
3. Does the leverage affect stock underpricing?
4. Does underwriter reputation affect stock underpricing?
5. Does the type of industrial company affect stock underpricing ?

2. LITERATUR REVIEW

2.1 Literatur Review from each variable

2.1.1 Signaling Theory

Signaling theory is a theory that discusses how company management acts to convey accurate information related to company performance. Ali et al (2020) proposes obtaining different information that is known to parties involved in the initial price disclosure, including issuers, underwriters, and investors. The underwriter knows that market conditions are more accrual than issuers, and for potential investors, the underwriter has more information about the company's condition in the market. According to Muhani et al (2020) when there is information asymmetry in a company, it creates difficult conditions for investors to sort out which companies are qualified and which are not.

2.1.2 Initial Public Offering

An initial public offering is an initial public offering of shares to the public held by the company for the first time (Jayusman, 2019). An initial public offering (IPO) is part of a series of company processes for obtaining fresh funds contained in the issuer's prospectus, which also contains the reasons or objectives for a company to go public. Stock Underpricing Darpius et al (2019) state that underpricing is the result of unclear stock prices when bargaining in the primary market. Underpricing occurs as a result of ignorance of market conditions, so the issuer should know the actual market situation prior to the IPO. Current Ratio Novitasari (2022) state that the current ratio is a measuring tool for assessing a company's ability to pay off its short-term debt.

2.1.3 Return on Asset

Return on assets, also known as ROA, is an indicator of profitability that can calculate the company's activities, whether it is about making a profit or how to manage company assets. If the profitability is high, it can reduce investor uncertainty in making investments, and the level of undervaluation will be smaller (Jayanarendra & Wiagustini, 2019)

2.1.4 Debt to Equity Ratio

Debt to equity serves to see the ability of a company to settle its obligations by looking at how the company is paying off its debts. DER also guarantees the extent to which the company's debts are guaranteed by the company's own capital, which is used as company financing (Ariyanti & Isynuwardhana, 2023)

2.1.5 The Reputation of the Underwriter

Underwriters are state-owned enterprises or private companies (external parties) that combine the needs of issuers and investors or are responsible for the risk of selling the issuer's securities to investors (Raniry & Yusniar, 2020). At the time of initial marketing, investors cannot fully assess the good or bad reputation of a company that will be invested in. There is an opportunity for underwriters and issuers to provide good information so that it becomes an attraction for investors and shows a high reputation during an IPO (Putra & Djawoto, 2020).

2.1.6 Industry Type

Differences in characteristics lead to differences in risk for each type of industry that exists. This is ultimately the background to the difference in the probability level of profit obtained by investors for each industrial sector, so there are also differences in the level of underpricing (Fadilah, 2021)

2.2 Previous Research

There is growing research and study of the fundamental factors that contribute to the underpricing of a stock's price. This includes, among others, research on the type of industry and reputation of the underwriter. There are also various studies to study the relationship of a company's financial performance to the IPO company's stock price, including several ratios such as the current ratio, debt-to-equity ratio, and return on assets. Even so, there are still many different results from previous studies, which result in a research gap to be studied.

2.3 Hypothesis Development

We develop hypotheses to provide clarification of the problem statement or research questions:

H1 : Current ratio has a negative effect on stock underpricing

H2 : Return on assets has a negative effect on stock underpricing. H3 : Debt-to equity has a positive effect on stock underpricing.

H4 : Underwriter's reputation has a negative effect on stock underpricing. H5 : Industry type has a negative effect on stock underpricing.

2.4 Research Framework

Figure 1 shows the research framework. For the independent variables, we used the financial performance variables that consist of the current ratio (X1), return on assets (X2), and debt-to ratio (X3). In terms of external factors, we use the underwriter's reputation measurement variable (X4) and the type of industry (X5).

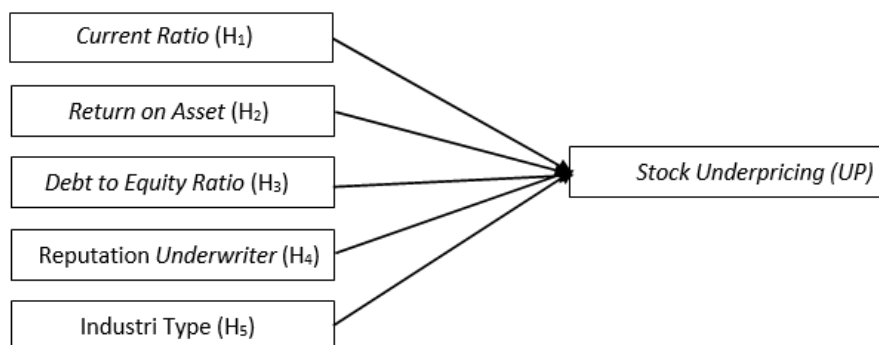


Figure 2.1 Research Framework

3. Research Method

3.1 Data Collection

All data in this study is secondary data, which is collected annually from various sources. time series data on the company's shares, including their financial ratios data collected from the Indonesia Stock Exchange (IDX) and the company's annual report

3.2 Research Population and Samples

This study uses a population obtained from all companies in Indonesia, originating from all types of industries, that have conducted an initial public offering (IPO) on the Indonesian Stock Exchange (IDX) in the period 2020–2021. There are 104 companies that have conducted an

IPO. The selection of data samples in this study was carried out by applying the purposive sampling method so that in the end the sample used was 61 companies

3.3 Econometric Model and Variables

The research method used to test the hypothesis is a multiple linear regression analysis method that aims to test the form of the data in the form of a cross section.

$$UP = \alpha + \beta_1 CR_i + \beta_2 ROA_i + \beta_3 DER_i + \beta_4 RU_i + \beta_5 JI_i + \varepsilon_i$$

Information:

UP = Underpricing

α = Constant

i = Number of Observations in The 2020-2021 Period β_1-5 = Regression

Coefficient

CR = Current Ratio DER = Debt Equity Ratio

RU = Reputation of Underwriter JI = Industry Type

ε = error term

Table 3.1 Measurement Variable

Variable	Symbol	Measurement	Variable Scale
Underpricing	UP	$\frac{CP - OP}{OP} \times 100\%$	Rasio
Current Ratio	CR	$\frac{\text{Current Asset}}{\text{Current Liabilities}} \times 100\%$	Rasio
Return on Aasset	ROA	$\frac{\text{Net Income}}{\text{Total Assets}} \times 100\%$	Rasio
Debt to Equity Ratio	DER	$\frac{\text{Total Liabilities}}{\text{Total Equity}} \times 100\%$	Rasio
The Reputation of Underwriter	RU	Dummy Variabel 0 = Outside The Top 10 Underwriters 1 = Top 10 Underwriters	Nominal
Type Industry	JI	Dummy Variabel 0 = Not A Manufacturing Industry 1 = Manufacturing Industry	Nominal

*Source : Processed Data

4. RESULT AND DISCUSSION

Table 4.1 Descriptive Statistical Results

	UP	CR	ROA	DER
Mean	0.450964	1.562230	0.094800	0.925698
Median	0.350000	1.572000	0.066900	0.890005
Maximum	1.285700	3.040000	0.397410	2.404760
Minimum	0.097400	0.040000	0.006705	0.189484

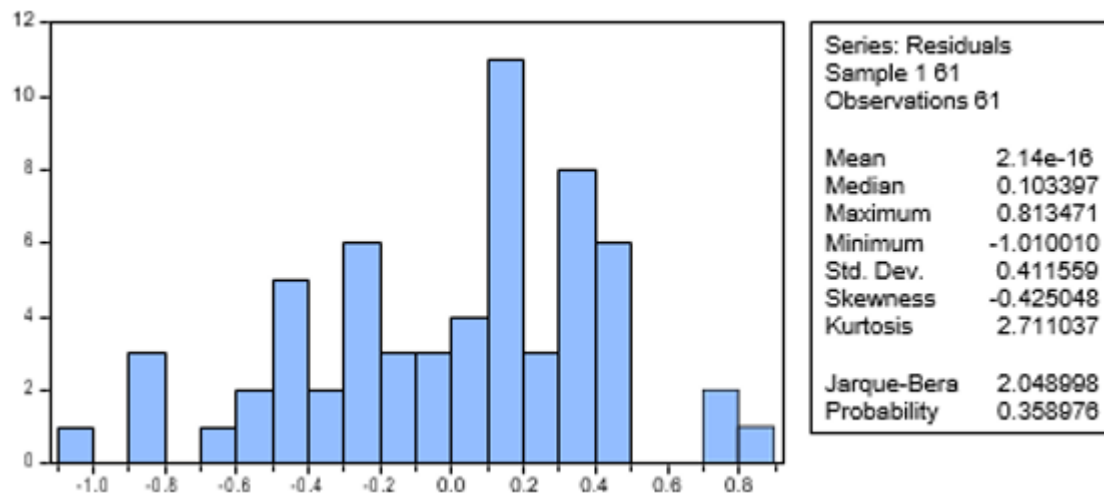
Std. Dev.	0.259690	0.699994	0.090130	0.457281
Observations	61	61	61	61

Source : Eviews12

4.1 Classic Assumption Test

4.1.1 Normality Test

The normality test is carried out to test whether, in the regression model, the dependent variable and independent variable have a normal distribution or not. The results of the normality test are shown in Figure 4.1. Based on the results of the normality test, it can be seen that the probability of the Jarque-Berra is $0.358 > 0.05$, so H_0 is accepted and the normality assumptions required in the regression model are met.



Source : Eviews12

Figure 4.1 Output Normality Test

4.1.2 Multicollinearity Test

A multicollinearity test was conducted to determine whether there is a correlation or not between the independent variables in the regression model. Multicollinearity testing is carried out using variance inflation factors. Processing results for multicollinearity testing are shown in Table 4.2. The results of the multicollinearity test show that the tolerance value for each variable is > 0.10 and the VIF value for each variable is < 10 , so it can be concluded that the resulting model is free from multicollinearity problems.

Table 4.2 Output Multicollinearity Test

Variable	Centered VIF
C	NA
CR	2.233776
ROA	1.275665
DER	2.200782
DRU	1.120153
DJI	1.041219

4.1.3 Heteroscedasticity Test

Heteroscedasticity test to test data whether in a regression model there is an inequality of variance

from the residual of one observation to another using the Breusch- Pagan-Godfrey test. Processing results for the White test can be seen in table 4.3. Information from the table is indicated by the Chi-Square p-value of $0.9836 > 0.05$ so that H_0 is accepted and it can be concluded that in the regression model used there is no heteroscedasticity.

Table 4.3 Output Heterocedasticity Test

Heteroskedasticity Test: White			
F-statistic	0.333619	Prob. F(18,42)	0.9929
Obs*R-squared	7.630712	Prob. Chi-Square(18)	0.9836
Scaled explained SS	14.82758	Prob. Chi-Square(18)	0.6738

Source : Eviews12

4.2 Research Hypothesis Testing Results

Table 4.5 shows the results of the regression. The results of testing the fit model produce an adjusted R square value of 0.5534, which means that variations from the independent variables, namely curret ratio, return on assets, debt-to-asset ratio, underwriter reputation, and industry type, are able to explain the variation of the dependent variable, namely underpricing, of 55.34%, while the rest, namely 44.66%, is the variation of other independent variables that affect underpricing but are not included in the model. The global test results yield a statistical F value of 15.87514 with a p-value of 0.000 0.05, which means that H_0 is rejected and H_a is accepted, so it can be concluded that there is at least one independent variable that has a significant effect on the dependent variable.

Table 4.4 Output t-Test (Partial Test)

Variable	Prediction	Coef (B)	Sig.
CR	-	-0.096742	0.0480
ROA	-	-0.167482	0.5532
DER	-	0.292841	0.0002
RU	-	0.015179	0.7775
DJI	-	-0.065405	0.1871
R-Suared	0.590700		
Adjusted Squared	0.553491		
F-Statistic	15.87514		
Prob(F-Statistic)	0.000000		

Source : Data Processed (Eviews12)

4.3 Result Analysis and Discussions

1. Effect of Current Ratio on Stock Underpricing

The research findings show that the current ratio (CR) has a significant negative effect on the level of underpricing. The significance value obtained from the CR test is 0.048, which is less than the significance level of 0.05. Therefore, the null hypothesis (H_0) is rejected, indicating that CR does have a significant impact on underpricing. This supports the results of previous studies by (Nahak, 2019) and (Hafiz et al., 2020), which found a significant negative relationship between CR and underpricing. However, these findings contradict the results of studies conducted by (Kamalia, 2022) and (Novitasari, 2022) which found no significant effect of CR on underpricing. An increase in a company's current ratio signifies a reduced risk of failing to meet current debt obligations, lowering the uncertainty faced by investors. This reduction in risk and uncertainty leads to the setting of a fair price. A higher current ratio implies lower uncertainty for investors, resulting in lower returns and a smaller potential for underpricing to occur (Oktavia, 2019).

2. Effect of Return on Assets on Stock Underpricing

The research findings indicate that the return on assets (ROA) does not have a negative or significant effect on underpricing. The significance level obtained from the ROA test is 0.553, which is greater than the significance level of 0.05. As a result, the null hypothesis (H_0) is accepted, suggesting that ROA does not have a significant impact on underpricing. These results align with the findings of (Widyawati et al., 2019) and (Rudianto, 2022), who also found no significant effect of ROA on underpricing. However, these findings contradict the results of research conducted by (Pratiwi, 2021) and (Ariyanti & Isyuardhana, 2023) who discovered a significant negative relationship between ROA and underpricing. Therefore, the proposed hypothesis (H_2) stating that ROA has a negative effect on underpricing in companies conducting IPOs is rejected. Underpricing is not significantly influenced by the ROA variable alone. Investors not only consider the ROA value in the prospectus but also assess the company's financial statements from previous years to gauge the potential for future markup (Setya & Fianto, 2020).

3. Effect of Debt to Equity Ratio (DER) on Stock underpricing

The research findings indicate that the debt-to-equity ratio (DER) has a positive and significant effect on underpricing. The significance value obtained from the DER test is 0.002, which is less than the significance level of 0.05. As a result, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_a) is accepted, concluding that DER has a positive and significant impact on underpricing. These findings align with the results of research conducted by (Hafiz et al., 2020) and (Rivandy, 2020) which also found a positive and significant relationship between DER and underpricing. However, these findings contradict the results of research conducted by (Raniry & Yusniar, 2020) who suggested that DER has no significant effect on underpricing. Therefore, the proposed hypothesis (H_3) stating that DER has a positive effect on underpricing in companies conducting IPOs is accepted. According to Kim et al. (2001), DER reflects a company's risk and uncertainty. A higher DER indicates a greater financial risk and the potential for failure to repay loans, which can influence the determination of a fair share price during the IPO. High financial leverage can lead to underpriced stock prices due to increased uncertainty in investor returns (Novitasari, 2022).

4. Effect of the Underwriter's Reputation on Stock Underpricing

The research findings indicate that the underwriter's reputation does not have a significant effect on underpricing. The significance value obtained from the underwriter reputation test is 0.777, which is greater than the significance level of 0.05. Therefore, the null hypothesis (H_0) is accepted, suggesting that underwriter reputation does not have a significant impact on underpricing. This conclusion contradicts previous studies (Putra & Djawoto, 2020) and (Ariyanti & Isyuardhana, 2023) which also found no effect of underwriter reputation on underpricing. However, it is consistent with the findings of other studies (Raniry & Yusniar, 2020) and (Widyawati et al., 2019). The rejection of the proposed hypothesis could be attributed to the limited data sample used for reputation assessment, which only considered the top 10 values from the IDX (Indonesia Stock Exchange) ranking. Additionally, not all companies included in the study's data set were among the top 10, and some companies shared the same underwriter.

5. The Effect of Industry Type on Stock Underpricing

The research findings indicate that the type of industry does not have a significant effect on underpricing. The significance value obtained from testing the type of industry is 0.187, which is greater than the significance level of 0.05. Therefore, the null hypothesis (H_0) is accepted, leading to the conclusion that the type of industry does not have a significant impact on underpricing. Consequently, the proposed hypothesis (H_5) suggesting that the type of industry has a negative effect on underpricing in companies conducting IPOs cannot be accepted. These results align with the findings of research conducted by (Raniry & Yusniar, 2020) and (Fadilah, 2021) which also found no significant effect of the type of industry on underpricing. Additionally, these findings do not support the results of research conducted (Song & Kutsuna, 2022), who found a negative effect

of the type of industry on underpricing. The rejection of this hypothesis may be attributed to the limited variation in the data sample regarding the type of industry, as it was only classified into two types: manufacturing and non-manufacturing. Moreover, industries in general tend to have similar market risks and opportunities, making it less influential for investors to differentiate based on the type of industry when making investments. The lack of impact on the type of industry is further supported by the small sample period for IPO companies, where only a few manufacturing companies, specifically 17 out of 61 companies experiencing underpricing, were included.

CONCLUSION

Based on the results of the f-test, it was found that the variables current ratio (CR), return on assets (ROA), debt to equity ratio (DER), underwriter reputation (dRU), and type of industry (dJI) collectively affect underpricing in companies conducting initial public offerings (IPOs) on the Indonesia Stock Exchange. However, when considering the individual effects of each variable, the current ratio (CR) has a negative influence on underpricing, while the return on assets (ROA) does not have a significant impact on underpricing. On the other hand, the debt to equity ratio (DER) has a positive influence on underpricing, indicating that higher leverage leads to increased underpricing. The underwriter's reputation variable does not show a significant effect on underpricing, and similarly, the type of industry variable does not have a significant impact on underpricing in companies conducting IPOs on the Indonesia Stock Exchange.

IMPLICATION

For Academic

This research can be used as a reference or literature for academics who wish to conduct research on the effect of company age, company size, profitability, financial leverage on the level of underpricing. Based on this research, academics can add variables other than those examined in this research which are thought to have an influence on underpricing, because in this study the independent variables have limitations in explaining the dependent variable.

For Investors

It is hoped that this research can provide benefits to investors. Investors want high underpricing because, by doing so, they get large returns. This desire is the opposite of what companies wishing to do an IPO want: low underpricing so that the company gets maximum funds. When investors wish to invest in a company conducting an IPO, they should consider factors that have been proven to have an influence on underpricing. This is useful for optimizing the profits obtained and can minimize risks when investing.

For Company

Based on the results of this study, companies can pay more attention to the phenomenon of underpricing because if there is underpricing, then the funds that will be obtained by the company during the initial public offering (IPO) are not maximum. The company has an interest in setting the initial share price as well as possible to maximize the funds collected.

RECOMMENDATIONS FOR FURTHER RESEARCH

Based on the results and analysis that have been carried out by the researcher, this researcher still has many shortcomings, so there are many things that need to be considered and improved again for the following research, while suggestions from the author for the next researcher are:

1. Extending the research period (time) in order to add data so that more normal data results can be obtained
2. Expand by adding other variables that can affect underpricing, such as return on equity (ROE), earnings per share, and other external factors, namely exchange rates, inflation, and investor sentiment.

3. Using different analysis tools so that they will produce data that is more accurate and more accountable.

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CHAPTER 2

ENHANCEMENT OF FINANCIAL REPORTING SKILLS OF PROSPECTIVE YOUNG ENTREPRENEURS

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ABSTRACT

One of the key indicators of the nation's economic progress is the amount of entrepreneurship in a country. Currently, the number of entrepreneurs in Indonesia is still relatively very small, which is less than 4%. Entrepreneurship is also highlighting the national strength of not depending on other nations. Bina Amanah Cordova is one of the entrepreneurship schools in Tangerang. Bina Amanah Cordova seeks to foster local residents, especially women, to become financially independent through entrepreneurship training. One of the skills needed by prospective young entrepreneurs is the ability to make financial reports. To accelerate the ability to make financial reports easily by using the application, which is Paper id. Before the training, prospective Bina Amanah Cordova entrepreneurs did not have the knowledge and skills to use Paper id. Nevertheless, the training is able to increase the skills and capability of young prospective entrepreneurs.

Background/Problems: Young entrepreneurs are the engine of the economic growth in Indonesia. Nonetheless, they are having difficulties to upscale the businesses due to lack of financial reporting and managerial skills.

Objective(s): The purpose of this study aims to determine the level of understanding of prospective entrepreneurs at Bina Amanah Cordova in preparing financial reports and at the same time increasing entrepreneurial skills through the use of the Paper.id application. The method used is a case study conducted at Bina Amanah Cordova at the end of 2022.

Results and Discussion The results show that prospective Bina Amanah Cordova entrepreneurs have increased their entrepreneurial skills by preparing financial reports using Paper id.

Conclusions: The innovation of financial reports such as paper id proved effectively in supporting small businesses and young entrepreneurs with cost efficiency and better performance. It is necessary to disseminate the paper id to public in general

Keywords : prospective entrepreneurs, financial reports, paper id

1. INTRODUCTION

Indonesia is the largest population in Southeast Asian countries but the number of entrepreneurs can be the smallest in the region as it has not reached 5 percent of its 270 million people. At the same time, Indonesia experiences the bonus of demographic of its population as the productive age (15-64) occupies the largest proportion (68%) of population. This bonus demographics can be a waste if there is unclear blueprint to develop young entrepreneur. This study attempts to explore on how to equip young entrepreneurs with the ability to use financial reporting. The novelty of this study is case study based on community of young entrepreneurs.

Paper.id is the first invoicing platform in Indonesia that integrates cash management and financial report. Using this platform, young entrepreneurs may be able to track all invoices and sales and are able to read the comprehensive financial reports rapidly. Equipped with reminder system, users of the platform may never forget the customer bills or payments. Users can make electronic invoices on several options of devices and this information is integrated with financial report features such as balance sheet, profit and loss and other reports, enabling users to read their financial statements in a simple, comprehensive and real-time manner.

Despite of its multiple functions of paper.id, many young entrepreneurs are not able to read and understand of financial reporting and are not familiar with paper.id. It is common young entrepreneurs who are also part of small medium enterprise are not professional and capable in managing the financial condition of its business in Indonesia. Therefore, there should be an effort to help young entrepreneur in Indonesia to understand financial report and able to apply paper.id to accelerate and upgrade its business. This study is applying pilot project at Bina Amanah Cordova in supporting young entrepreneurs.

2. FINANCIAL REPORTING AND YOUNG ENTREPRENEUR

Given the importance of the study of financial reporting and young entrepreneur, we examine the latest study in regards to the keywords as basis for our case study. We choose the best journals to categorize the papers into the different methods, sample, and findings in general.

In general, based on the keywords of financial reporting in google scholar, the issues of financial reporting from 2015-2023 have been shrinking compared to the previous years from 2005-2010. We have selected 10 papers related to the keywords of financial reporting that have been published in Q1 and Q2. Table 1 highlights the papers with financial reporting keywords that have been published in Q1 and Q2. 80% of papers have been published in Q1 such as Journal of Business Finance and Accounting (A*), Journal of Accounting and Economics (A*), Contemporary Accounting Research (A*), Journal of Accounting Auditing and Finance (A) and Research in International Business and Finance (A). The rest of papers (20%) have been published in Q2 journals such as European Management Journal and Corporate Governance.

Table 1

The study sample is based on a search for articles dealing with financial reporting, published in 2015-2023 in journals ranked as Q1 (A) and (A*) and Q2 (B) based on ABD dean list.

No	Paper	Journal
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1	Ould & Ellili (2022)	Corporate Governance
2	Dobija et al. (2022)	European Management Journal
3	Szerwo (2020)	Journal of Accounting, Auditing & Finance (2020)
4	Rubin & Segal (2019)	Journal of Business Finance & Accounting (2019)
5	Pavlopoulos et al. (2019)	Research in International Business & Finance (2019)
6	Bonsal et al. (2017)	Journal of Accounting & Economics (2017)
7	Leuz & Wysocki (2016)	Journal of Accounting Research (2016)
8	Abbott et al. (2015)	Journal of Accounting Research (2016)
9	Francis et al. (2015)	Contemporary Accounting Research (2015)
10	Lang & Stice-Lawrence (2015)	Journal of Accounting & Economics

In general, based on the keywords of youth entrepreneurs in google scholar, the issues of youth entrepreneurs 2015-2023 have increased significantly compared to the previous years from 2005-2010. We have selected 10 papers related to the keywords of youth entrepreneurs that have been published in Q1 and Q2. Table 2 shows the papers with youth entrepreneur keywords that have been published in Q1 and Q1. 80% of papers have been published in Q1 such as Journal of Business Venturing (A*), Journal of Political Economy (A*), American Economic Review (A), Journal of Small Business Management (A), Journal of International Management (A), Small Business Economics (A), Entrepreneurship and Regional Development (A). The rest of papers (20%) have been published in Q2 journals such as Journal of Intellectual Capital and Journal of East-West Business.

Table 2

The study sample is based on a search for articles dealing with young entrepreneurs, published in 2015-2023 in journals ranked as Q1 (A) and (A*) and Q2 (B) based on ABD dean list.

No	Paper	Journal
1	Merrienboer et al. (2023)	Entrepreneurship & Regional Development (2023)

2	Festa et al. (2022)	Journal of Intellectual Capital (2022)
3	Azoulay et al. (2020)	American Economic Review (2020)
4	Bai et al. (2020)	Journal of International Management (2020)
5	Mcgowan et al. (2020)	Journal of Small Business Management (2020)
6	Brieger et al. (2021)	Small Business Economics (2021)
7	Manolova et al. (2019)	Journal of East-West Business (2019)
8	Edelman et al. (2016)	Journal of Business Venturing (2016)
9	Afutu-Kotey (2017)	Journal of African Business (2017)
10	Liang et al. (2018)	Journal of Political Economy (2018)

Given the literature with keywords of financial reporting, most of the papers (Ould & Ellili, 2022; Dobija et al. 2022; Rubin & Segal, 2019) have provided empirical evidences. Only few (Leuz & Wysocki, 2016) investigate the studies by applying qualitative method. The literature of financial reporting have been focusing on several items such as financial reporting quality (Ould & Elilili, 2022; Dobija et al. 2022), financial reporting monitoring (Abbott et al. 2015). The literature posits that the gender diversity and women on board, voluntary disclosure such as ESG and highly skilled directors may improve financial reporting quality. Table 3 indicates the summary of empirical papers presented in chronological order on financial reporting.

Table 3

Summary of empirical papers presented in chronological order, on financial reporting.

Authors	Sample	Period	Country	Main Findings
Ould & Ellili (2022)	NA	From 2010 to 2019	UAE	There is positive relationship between ESG disclosure, FRQ and investment efficient.
Dobija et al. (2022)	350 companies	From 2010	Poland	Women on board and increased gender diversity is positively

		to 2015		associated with higher financial reporting quality
Rubin & Segal (2019)	94,506 independent director-years	From 2000 to 2010	International studies	Boards with highly skilled directors invest more in monitoring effort and have better financial reporting quality.
Pavlopoulos et al. (2019)	NA	From 2011 to 2015	NA	The positive relationship between firm performance and the quality of integrated reporting disclosure
Leuz & Wysocki (2016)	Review empirical papers in general	NA	US & international studies	Disclosure and financial reporting are important
Francis et al. (2015)	4,239 firm year observation	From 1988 to 2007	USA	Female CFOs are more conservative
Lang & Stice-Lawrence (2015)	15,000 firms	From 1998 to 2011	42 countries	Firms with the greatest improvement in financial reporting experienced the greatest improvement in economic outcomes around IFRS adoption

Given the literature with keywords of financial reporting, some papers (Festa et al., 2022; Azoulay et al. 2020; Bai et al. 2020). Others are applied qualitative method such as Afutu-Kotey (2017) and Merrienboer (2023). The literature on young entrepreneurs are sythesised into two groups. First group is addressing the traits of young entrepreneurs and how they can be rise and shine in young age. Second group is highlighting the optimal age to be successful entrepreneur. Some studies focus on one country such as USA or emerging country such as India or Tunisia. Others explore cross-country studies Brieger et al. (2021), Edelman et al. (2016) and Liang et al. (2018). Interestingly, some studies are applying different theories as theoretical framework such as Social capital theory (Bai et al. 2020; Edelman et al. 2016), Lifespan developmental psychology (Brieger et al. 2021) and Human capital framework (Liang et al. 2018)

Table 4

Summary of empirical papers presented in chronological order, on young entrepreneurs.

Authors	Sample	Period	Country	Main Findings
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Festa et al. (2022)	93 people	April-July 2020	Tunisia	Young entrepreneurs in Tunisia are interested in new technological platforms
Azoulay et al. (2020)	2,658,000	NA	USA	The best entrepreneurial trait is at age 45.
Bai et al. (2020)	150 SMEs	NA	India	Internal social capital is connected with a young venture's international learning support
Brieger et al. (2021)	15,000 entrepreneurs	NA	45 countries	Younger and older entrepreneurs create more social value with their businesses
Liang et al. (2018)	1.3 million	2001-2010	82 countries	Countries that have younger populations have higher entrepreneurship rates than do countries with older populations.
Edelman et al. (2016)	12,399	NA	19 countries	Family social capital is positively associated with the scope of start-up

2.1 FINANCIAL REPORTING SKILL AND YOUNG ENTREPRENEUR

Some studies reports and provide qualitative evidence in enhancing the ability of financial reporting skill for certain target groups such as small medium enterprises, students, entrepreneurs and public in general in Indonesia. Nonetheless, there are no studies exploring the enhancement of financial reporting skills for young entrepreneurs which are necessary. During pandemic, only few of studies attempt to do online training but others maintain workshop and training as the method of enhancement of financial reporting skills of small medium enterprises.

Table 5 reports the list of national publication that indicates the enhancement of financial reporting skill of subject study.

Table 5

List of National Publication in Improving Financial Reporting Skill of Subject Study.

Authors	Location	Competency	Subject	Method
Agustina et al. (2019)	Jakarta, Indonesia	Financial Reporting Skill	SMEs	Workshop
Andayani et al. (2022)	West Java, Indonesia	Financial Reporting Skill (Paper.id)	SMEs	Online training

Handayani et al. (2022)	Lampung, Indonesia	Financial Reporting Skill	SMEs	Training
Winerungan, 2020	Manado, Indonesia	Financial Reporting Skill	SMEs	Training

METHOD AND DATA

To obtain the objective of the study, we have observed the Bina Amanah Cordova. Then, we set up the technical plan to provide the training. The training had been done in the location of Bina Amanah Cordova in Tangerang on 17th December 2022. There were 22 young entrepreneurs who attended the training. To evaluate the effectiveness of the training, we collected questionnaires. The questionnaires have been designed to evaluate the ability of young entrepreneurs in reading annual reports. Table 6 underscores the stage of our method.

Table 6
Stage of Case Study

No	Stage	Description
1	Initial survey and Interview the Management	Documentation, Survey and Interview
2	Problem Identification and Drafting proposal	Uploading proposal to the university
3	Producing material for training and the questionnaire	Power point of material Questionnaire
4	Training and Assistance	Documentation Execute the training for half day
5	Producing output of the training	Evaluation of training and assistance

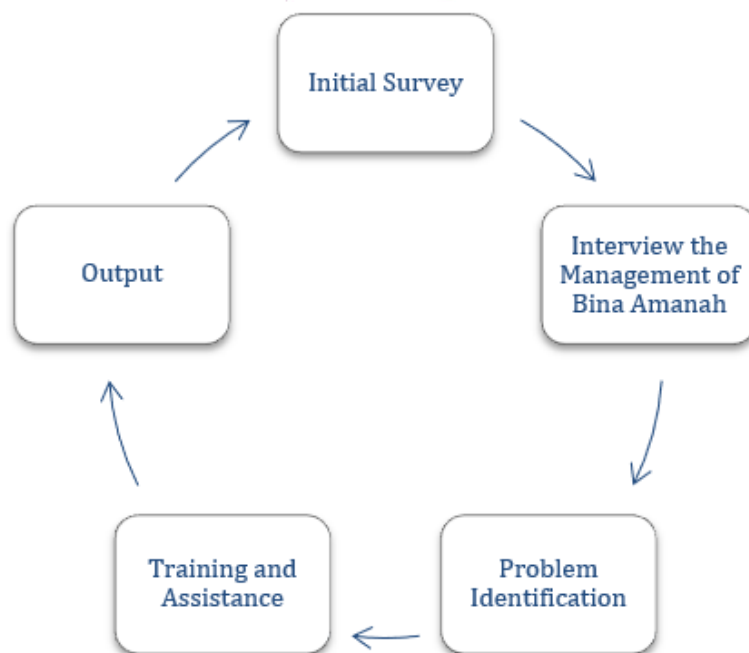


Figure 1. The Stage of Case Study

3.1 Outcome of Training

This study has been done by observing the location of young entrepreneurs in Tangerang. We interviewed the management of school for young entrepreneurs, Bina Amanah Cordova, to identify the problems of young entrepreneurs. The training executed on 17th December 2022. The questionnaires have been designed by constructing five items about financial reports information. The scale ranges by answering “yes” or “no”. The questionnaire had given twice which are pre-test and post-test. The analysis of the effectiveness of this service used descriptive statistics.

Majority of youth entrepreneurs are female (18 out of 22) and only a few are male. With the range of age are four participants in range age of 20-25 and four participants are having age between 26-30 and the rest are participants in age between of 30-40. The efficacy of this study is to evaluate the performance of the subject of study in two different session which is before and after the training.

Table 7 reports the outcome of pre-test and post-test for 22 young entrepreneurs. Based on pre-test, 36% of the participants did not provide correct answer, 36% of the participants were able to obtain two correct answers. And the rests (28%) were able to achieve sufficient by answering three questions correctly. After the training, there were significant improvement of financial reporting skills of youth entrepreneurs. 14% of the participants were able to achieve very good by answering correctly for full questions. 32% of the participants were able to achieve good, and 45% of the participants were able to achieve sufficient. Only few (9%) were stagnant in minus.

Table 7
Measurement of Training

Correct answer	Scale	Outcome (n=22; 100%)	
		Pre-Test	Post-Test
None	Bad	8 36%	0 0%
1 to 2	Minus	8 36%	2 9%
2 to 3	Sufficient	6 28%	10 45%

3 to 4	Good	0	0%	7	32%
4 to 5	Very Good	0	0%	3	14%

Source: author

3.2 Figure and Graphic Content



Figure 2. Training Program for the Young Entrepreneurs



Figure 3. Team leader gave instruction on how to fill the questionnaire

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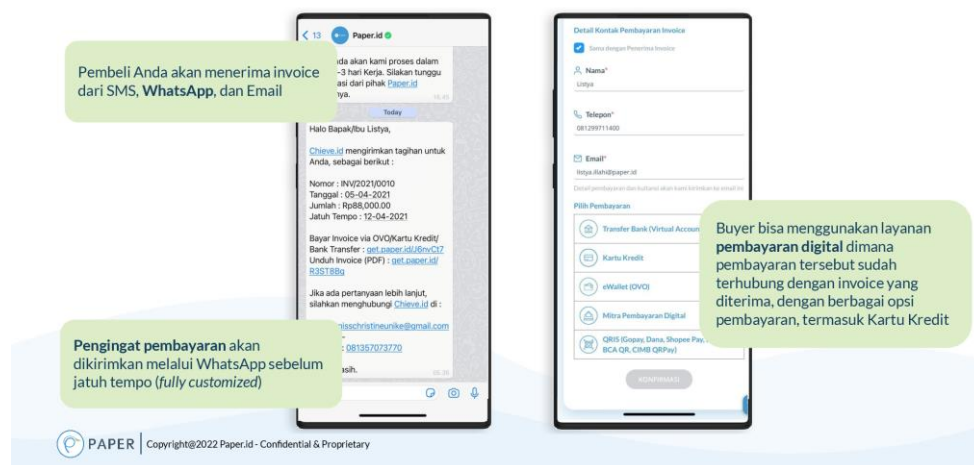


Figure 3. Material for the Young Entrepreneurs

CONCLUSION

Young entrepreneurs are the engine of the economic growth in Indonesia. Nonetheless, they are having difficulties to upscale the businesses due to lack of financial reporting and managerial skills. The purpose of this study aims to determine the level of understanding of prospective entrepreneurs at Bina Amanah Cordova in preparing financial reports and at the same time increasing entrepreneurial skills through the use of the Paper.id application. The method used is a case study conducted at Bina Amanah Cordova at the end of 2022. The novelty of this study is to explore the linkage between financial reporting skills on young entrepreneurs. Prior studies are unable to provide qualitative evidence on this connection. This study indicates the significant improvement of financial reporting skills on young entrepreneur at Bina Amanah Cordova in Tangerang.

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AESTHETICS DESIGN AND THE MEANING OF CULTURAL ACCULTURATION IN THE ISLAMIC CENTER MOSQUE SAMARINDA, EAST KALIMANTAN

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ABSTRACT

The Baitul Muttaqien Mosque, also known as the Islamic Center Mosque, located on the banks of the Mahakam River on Slamet Riyadi Street in the Sungai Kunjang District of Samarinda, East Kalimantan, provides a reflection of the acculturation between Middle Eastern and local East Kalimantan cultures. This is not only to beautify the mosque building, but also has a philosophical meaning contained within the two different cultural elements. One of the prominent designs is the tower, inspired by the Nabawi Mosque tower in Madinah AlMukarromah, and the main dome, inspired by the Haghia Sophia Mosque in Istanbul, Turkey. The mosque building also has 7 towers, with the main tower reaching 99 meters in height, symbolizing the 99 names of Allah (Asmaul Husna), while the mosque porch is decorated with Middle Eastern-style crystal chandeliers and wall lamps featuring Arabic calligraphy. Meanwhile, the local East Kalimantan culture can be seen in the ornamentation of the mosque's interior and exterior walls. In this article, the acculturation between Middle Eastern and local East Kalimantan cultures in Islamic architecture will be discussed through the perspective of aesthetic design sciences, using a descriptive research method by both outlining and analyzing. This research method begins with data collection, followed by direct and indirect observations through interviews, artifact studies, and documentation data at the Islamic Center Mosque in Samarinda.

Keywords : Mosque, Acculturation, Culture, Aesthetics Design, East Kalimantan.

Introduction

The Islamic Center Mosque plays an important role in the lives of Muslims, especially in Samarinda, as it has become a distinctive feature and the second largest religious and social center after the Istiqlal Mosque in Jakarta. The architectural and interior design of the mosque is a manifestation of cultural acculturation, combining Middle Eastern culture with the local culture of East Kalimantan, interpreting aesthetic elements of the building design embodied in the Islamic Center Mosque.

Aesthetics fundamentally concerns the essence of natural beauty and art, but aesthetics can also be applied to the realm of architectural and interior design beauty. Architectural and interior works, in their development, are not only concerned with functional and technological aspects. They can also express ideas and feelings about visual beauty and comfort for the users.

Architectural and interior works as cultural elements contain values of beauty that are recognized both objectively and subjectively. In aesthetics, beauty is a phenomenon that has extrinsic and intrinsic values, closely related to its outward form and the messages or meanings it contains.

The meaning of Islamic architecture is understood as something homogeneous, regardless of space and time. It is undeniable that some consider what is referred to as Islamic architecture as artifacts with symbols of domes, arches, and geometric ornamentation. Conversely, a mosque may not be considered to have Islamic architectural character if it lacks minarets and domes, even if it is located in a place that historically and culturally has no traces of dome-shaped structures.

This will have an impact on the local culture of East Kalimantan, where the acculturation of Middle Eastern culture is reflected in the application of architectural and interior elements in the Islamic Center Mosque, indicating a design phenomenon that can be further observed and studied through the perspective of design disciplines. It aims to explore the actual implementation of architectural and interior elements in design aesthetics and the meaning of cultural acculturation between the two, which are unified in relation to the architecture and interior of the Islamic Center Mosque in Samarinda, East Kalimantan.

2. LITERATURE REVIEW

The comparison of literature reviews taken from previous research and the proposed research can be seen using the references in Table 2.1 below:

Table 2.1 Comparison of Literature Reviews from Previous Research

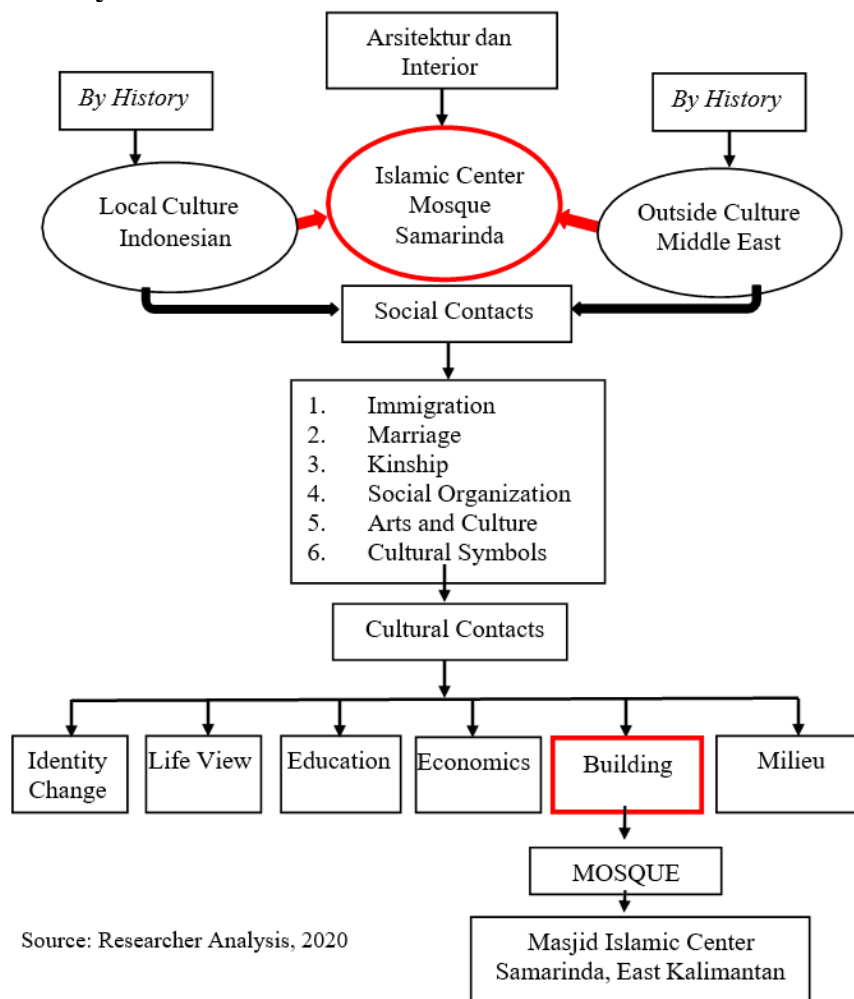
No	Title, Researcher's, Year of research	Objective	Research Method	Research Results
1	Perception of Mosque Architectural Elements related to Islamic Architectural Concepts Masthura Soraya, et al, Journal of Proceedings of IPLBI Scientific Meeting 2017 Architecture Study Program, Faculty of Engineering, Malikussaleh University, Lhokseumawe	Aims to develop intensive knowledge about an object and to examine public perceptions (respondents) about mosque buildings.	Research methods using normative case studies <i>(normative case study)</i> . The study was carried out by collecting several verses of the Quran and hadiths which were then elaborated and used as a frame of reference.	People who have not gained an understanding of dominant Islamic architecture are still based on form and civilization, especially Islamic civilization which sometimes reflects local culture, exaggeration, and expensive construction costs.

2	<p>Jakarta Islamic Center Mosque in Islamic Architectural Perspective</p> <p>Rizky Fathur, et al, 4th National Seminar of Scholars in 2018</p>	<p>Aims to know and understand the concept of Islamic Architecture at the Jakarta Islamic Center mosque in terms of building form, outdoor space processing and inner space processing.</p>	<p>The research method uses qualitative methods, namely describing and explaining literature data and field observations which are then analyzed to obtain conclusions.</p>	<p>In its design, the Jakarta Islamic Center Mosque pays attention to aspects of Islamic teachings that can be combined with architecture so that the image of Islamic buildings can be accepted and understood by the community.</p>
3	<p>The Use of Islamic Architectural Concepts in the Old Grand Mosque Building of Al-Osmani Medan</p> <p>Yuni Syarah, 2015, Journal of Architectural Engineering, Faculty of Teknik USU Medan with the guidance of Dr. Wahyu Utami, ST, MT</p>	<p>Aims to find out how Islamic concepts can be applied to the science of design, especially in mosque buildings, so that the culture that has been closely attached to the community can be gradually improved.</p>	<p>This research uses qualitative research methods, which produce descriptive data from observed objects. Analyze and conclude the necessary data and information related to the use of Islamic architectural concepts in the old grand mosque building of Al-Oesmani.</p>	<p>The concept of Islamic architecture, especially the mosque building, which is designed according to the needs and main functions of the mosque, shows the beauty written in a Hadith, but still looks simple in the design of the roof, minaret and color.</p>
4	<p>Application of Islamic Concepts in the Design of Salman Mosque ITB Bandung</p> <p>Utami et al, 2013, Jurnal Reka Karsa, Vol. 1, No. 2, 111</p>	<p>Aims to know and understand the application of Islamic concepts in design, in terms of the outer space, inner room, use of materials and colors in the Salman Mosque.</p>	<p>This research uses qualitative analysis methods with stages such as literature study and field observation.</p>	<p>The creation of an environmentally friendly concept while maintaining the surrounding nature created a beautiful space area around Salman Mosque ITB.</p>
5	<p>A blend of European and Middle Eastern Architectural Styles in the Jakarta Istiqlal Mosque Building.</p> <p>Fatimatuz Zahra's work, Journal of Proceedings of IPLBI Heritage Seminar 2017</p>	<p>Aiming to provide information to readers related to the Istiqlal Mosque building, it can also add insight into Middle Eastern architectural styles and European architecture.</p>	<p>This research uses qualitative descriptive method</p>	<p>Architectural elements are partly influenced by the Middle East, as seen from the domes, fountains, minarets, and philosophies brought.</p>
6.	<p>Ornamental Variety Forms (Ornaments) in Interior and Exterior Design</p> <p>Large mosques in Samarinda, East Kalimantan.</p> <p>Rony Herman, et al, Journal of Proceedings of Research Results Seminar (SNP2M) 2018</p>	<p>Aims to be able to map the patterns of ornamental varieties in mosque buildings in Samarinda in particular, so that it will be known how the influence of Islamic culture that enters the city of Samarinda in this case is Islamic art.</p>	<p>This research uses a descriptive analytical method, namely a method by deciphering as well as analyzing. The analysis of styles carried out by making observations of classification is carried out by making types and sub-types of ornamental varieties themselves.</p>	<p>Ornaments that are often and widely applied are intricate types, arabesque ornaments, calligraphy and floral. The ornaments applied to the mosque are a variety of ornaments influenced by Islamic art styles that developed during the Ottoman period.</p>

METHODOLOGY

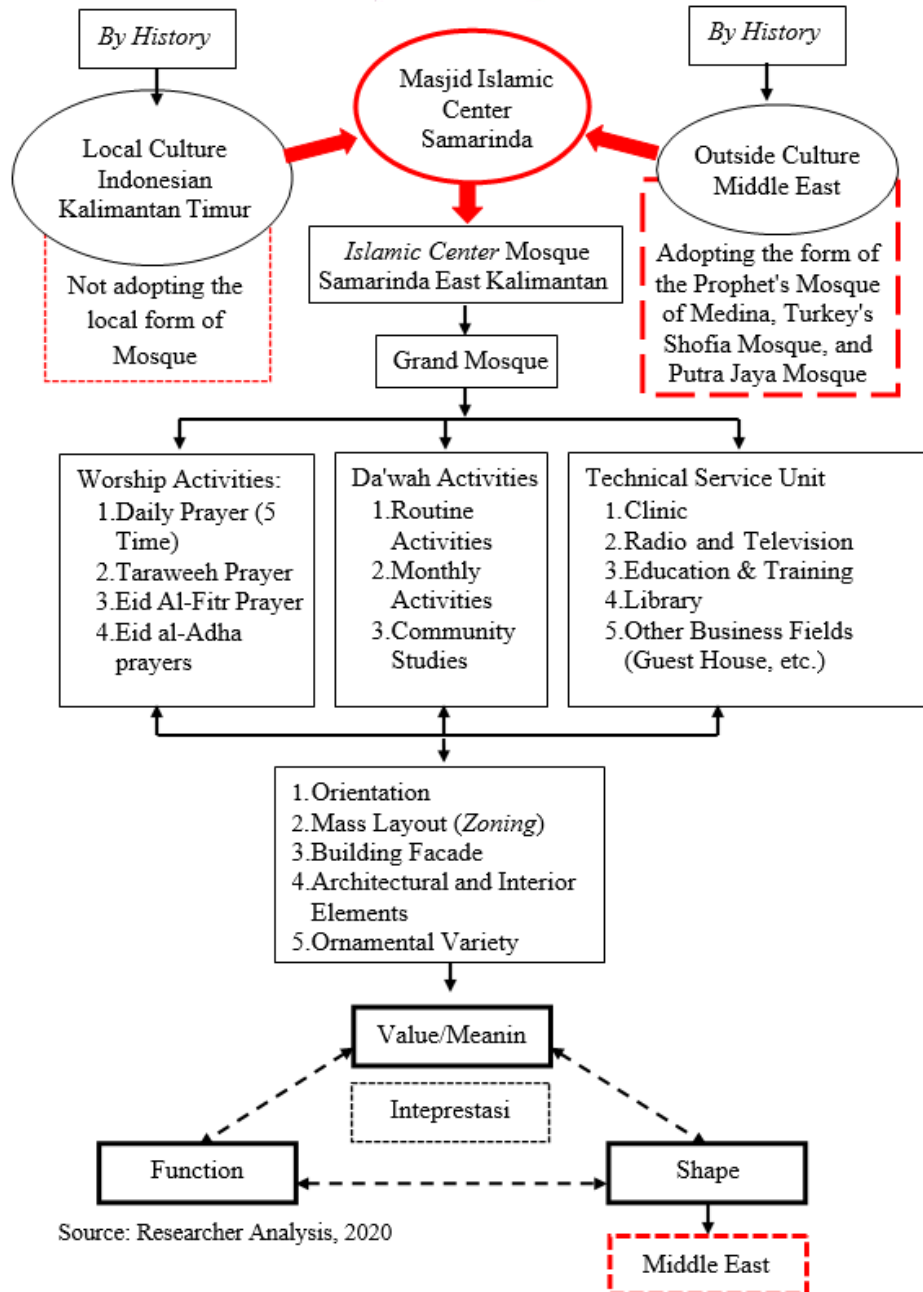
The method used is a descriptive method with a Phenomenological Theory approach that describes the elements of Middle Eastern interior architecture related to aesthetics, design and meaning contained in the Islamic Center Samarinda Mosque, East Kalimantan. Based on the results of case study research which aims to provide an overview of the background, characteristics and distinctive character of the case, the type of approach and its review of one case is carried out intensively, in-depth, detailed and comprehensive. The results of the elaboration of the analysis obtained in the form of explanations, comparisons, observation notes, documents, and also interviews or questionnaires according to the type of data source, then developed with related theories.

Cultural Event Analysis Chart



The description of the chart above is that events that occur in culture related to architecture and interiors are buildings. Buildings can affect changes that occur in each form of architectural and interior elements, these changes occur overall in the Islamic Center Samarinda Mosque which gives a distinctive Middle Eastern color with various other supporting elements.

Architecture and Interior Analysis Chart







Source: Researcher Analysis, 2020

RESEARCH FINDINGS AND DISCUSSION

Analysis of Middle East Architecture and Interior Islamic Center Mosque Samarinda East Kalimantan

Building Orientation

Table 4. Comparative Analysis of Mosque Building Orientation

<p>Mosque Architecture</p>	<p>Middle Eastern Architectural Concepts (Prophet's Mosque)</p>	<p>Architecture of Islamic Center Samarinda Mosque</p>
<p>The form of the first generation mosque refers to the form of the Prophet's Mosque as its role model. Source: (Fanani, Achmad. 2009. Mosque Architecture. Yogyakarta: PT. Bibliography.)</p> <p>The architectural requirement of the mosque is to face the Qibla, namely the Kaaba in Mecca and the orientation aspect is an important aspect to pay attention to, not only in the inner space of the mosque, but also the arrangement of the outer space on the site. Image source : (Design Criteria for Mosques and Islamic Center, Kahera (2009) Source : (Design Criteria for Mosques and Islamic Center, Kahera (2009)</p>	<p>The Prophet's Mosque is located right in the middle of Medina, with several hotels, offices and markets surrounding it. as well as Jannatul Baqi cemetery south of the Mosque. Source: (Sumalyo, Yulianto. 2000. Architecture of Muslim Mosques and Historical Monuments. Yogyakarta: Gajah Mada University Press.)</p>  <p style="text-align: center;">Qibla Direction</p>  <p style="text-align: center;">Main Entrance</p> <p>Image Source: (Madinah Al-Munnawwarah magazine. Refaat Modern Printers)</p>	<p>The Islamic Center Mosque is located on the border between the cities of Samarinda and Samarinda Seberang facing east which is directly facing the Mahakam river, while the direction of Qibla facing west coincides with residential areas.</p> <p>Qibla Direction</p>  <p style="text-align: center;">Main Entrance</p>  <p>(Image Source: Google Image)</p>

Conclusion:

In the phenomenological approach to the discussion of space, space cannot be separated from the place, because place is space that has a different character called the spirit of the place, then emerged as a Roman concept that states that every entity has a genius / spirit. Passion/genius is given to place and man as character or essence (Schulz, 1980, p. 40).

Thus, although it does not follow the form of orientation of the Prophet's Mosque building as a role model, the form of building orientation at the Islamic Center Mosque is the result of a study involving the place / location at the beginning of the planning of the construction of the mosque, so that the form of orientation in the direction of Qibla opposite to the main entrance of the mosque does not change any function as long as the Qibla is in the right direction.

Building Facade

The façade of the Islamic Center Samarinda Mosque building in East Kalimantan adopts the shape of the Prophet's Mosque of Medina, Turkey's Sofia Mosque, and Malaysia's Putrajaya Mosque.



Masjid Nabawi Masjid



Sofia Turki



Masjid Putrajaya Malaysia



Facade of Mosque Building
(Source: Layla N.K. Iskandar, 2020)

Based on the description above, the aesthetics of design and the meaning of cultural acculturation occurring in the application of Middle Eastern architectural and interior elements in the Islamic Center Mosque will be studied through qualitative descriptive analysis with a phenomenological theory approach divided into three levels, namely: top, middle, bottom.

Architectural and Interior Elements

Mosque Roof Shape (Exterior)



1. Lightning Protection
2. Mosque Symbol
3. Makara pole
4. Profile Accessories
5. Makara Mosque

The roof of the Islamic Center Samarinda Mosque in the form of a Dome / Dome is inspired by the Prophet's Mosque.

(source: Profile of Islamic Center of East Kalimantan Province Samarinda. 2016. p. 9. Islamic Center Management Board of East Kalimantan Province. Samarinda).



Dome of the Prophet's Mosque



Ornamental Details Mosque Dome

Vered with ornaments that adopt the shape of the East Kalimantan Emblem, namely the five-pointed shield, and inside the shield there is a star symbol that symbolizes belief in God Almighty. While from the East Kalimantan Tribe, the shield symbolizes defense with a dominant yellow color which contains meanings: indicating the existence of Hatalla (God), that Hatalla's power is really great there is no other ruler than Hatalla; symbolizes wealth (gold); nobility; majesty.

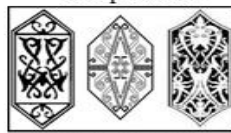


Prophet's Mosque in Medina



Symbol East Kalimantan

Source: Public Relations Bureau of the Regional Secretariat of East



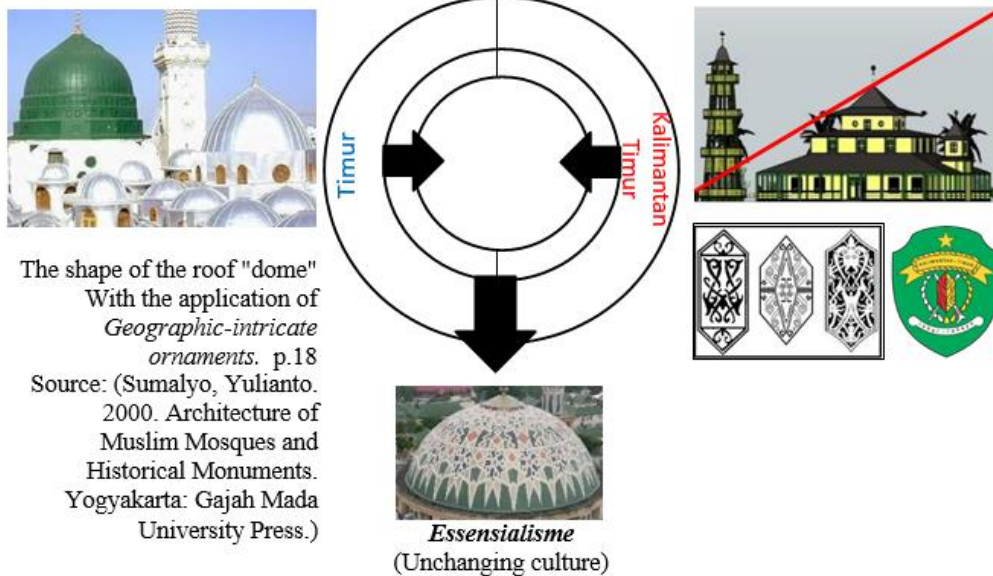
Talawang/shield

Source: Sellato, Bernard. Hornbill & Dragon = Dragon and hornbill: Borneo, Sarawak, Sabah, Brunei,

Sumber: Analisa Peneliti, 2020

If studied in the approach of Hybridity Theory (Hybridity) which includes efforts to "combine"

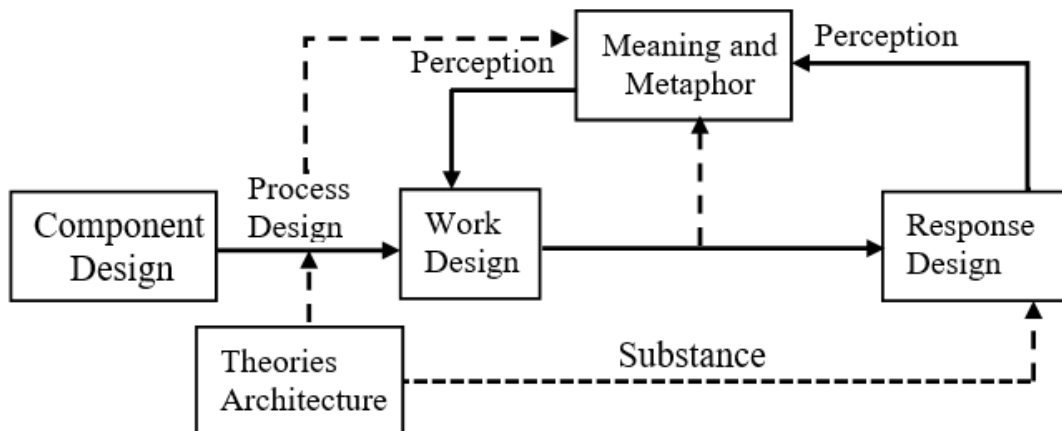
(Mixing) cultural elements that were previously separated with the aim of producing various new meanings and identities, it can be studied as follows:



It does not use the shape of the "multi-storey cone" roof but uses the basic ornaments of the Shield and Emblem of East Kalimantan as a dome layer Masjid.

Acculturation between the Dome-shaped roof of the Mosque with the application of Geological-intricate ornamental patterns derived from Middle Eastern cultures and the terraced Cone roof with the application of basic ornaments of shields typical of East Kalimantan does not produce new meanings and identities because Hybrid refers to structural and cultural which lies in the differences of countries that cannot change. So it can be concluded that the roof of the Islamic Center Mosque is a characteristic of Islamic civilization in the Middle East wrapped in typical East Kalimantan ornaments.

In the Symbolic Theory Approach, which states that a symbol is a sign that describes an object or meaning other than itself, symbolism is a form of representation founded on the basis of signs. Thus the dome on the roof of the mosque can be said to be a symbol of Middle Eastern Mosques which then mixed with various elements of art and culture in the era and place where the mosque was erected to become a dominating example of mosque architecture and form a representation that argues that the dome is a characteristic of a mosque. Here's a chart of the Model of symbolism in architecture:



Bagan 4.1.
Concept Symbolism in Architecture

The symbolism interpretation of the Dome form is to capture the meanings and metaphors inherent

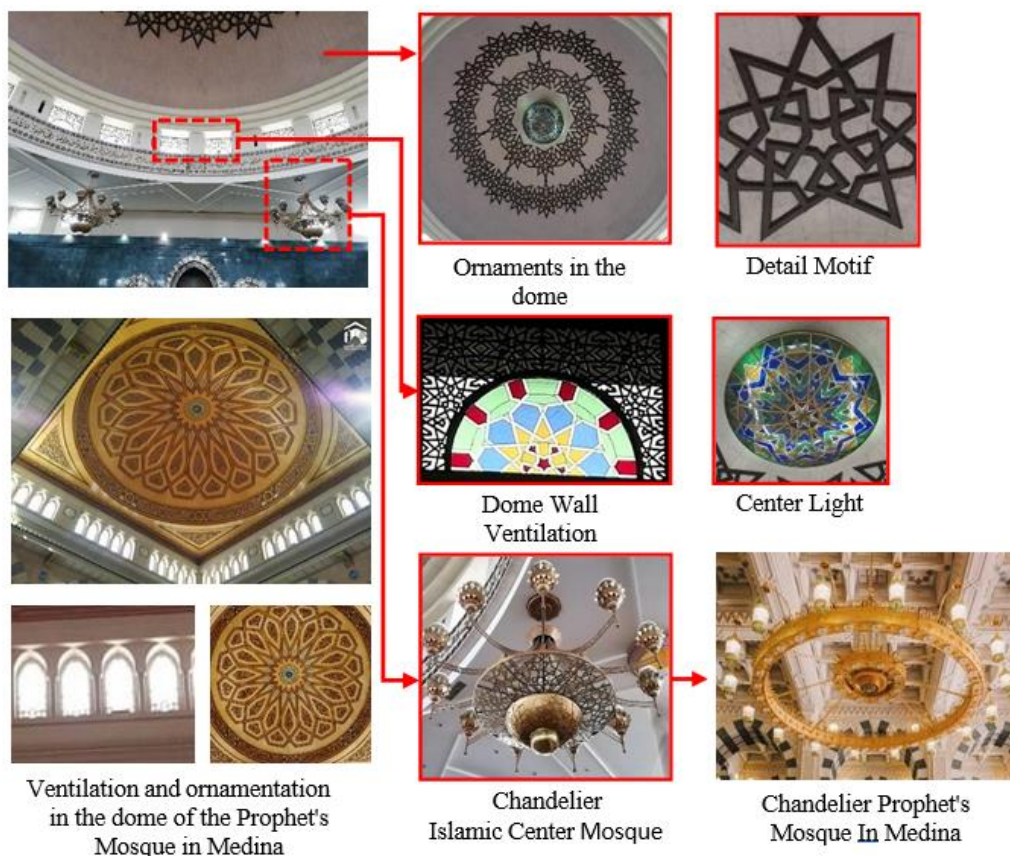
in the architectural form. This concept involves symbols, loads of meaning, and objects. Visual perception is the process of receiving information from and about the surrounding environment, because perception is a form of description that explains phenomena, not determines the good and bad of a situation.

Then it can be said that the shape of the Dome depicts signs or symbols to describe the function and meaning of the building, express the organization of space within the building, convey the cultural state when the building is built, and give identity to one or many communities.

Mosque Roof Shape (Interior)

It is said that the Islamic Center Mosque adopts the dome of the Prophet's Mosque, but what is adopted is only the shape of the dome of the mosque, while the ornamental decoration and ventilation in the dome are very different. The ornaments on the inside of the Dome are basically the same as the outer motif in the form of stars with one color, namely dark brown-black which means solemnity.

The dome of the mosque is made of concrete deck covered with imported mosaic tiles forming a circular ornament surrounding stained glass-coated lamps that hang in the middle of the dome. Stained glass on the vent has the same meaning as the outer motif of the dome. While the chandelier is an adoption of several mosque chandeliers in the Middle East, one of which is the Prophet's Mosque.



(Sumber: Profil Islamic Center Provinsi Kalimantan Timur Samarinda. 2016. Badan Pengelola Islamic Center Provinsi Kalimantan Timur. Samarinda).

Source: Researcher Analysis, 2020

Conclusion:

Based on the results of the analysis on the application of the shape in the dome of the Islamic Center Mosque which characterizes the Middle East is the shape of the roof of the mosque and

the ornamental patterns that form the Geological-Intricate pattern, namely lines, planes, curves, so many to many facets and others are in the science of measurement, the parts including angles and areas can be measured. The Geometric-intricate principle was applied by Arab Muslims first because they viewed geometry as a knowledge and developed into a tradition since premodern Muslim times in the Middle East. (Sumalyo, Yulianto. 2000. Architecture of Muslim Mosques and Historical Monuments. Yogyakarta: Gajah Mada University Press).

Main Gate of Mosque

Dome

In the Dome

Lighting

The dome material of the main gate of the mosque is almost the same as the main dome of the mosque, which is made of concrete dakcovered with brass and the inside of the dome made of imported *mosaic tile* forms a geometric ornament of brown stars.

The continuous repetition of geometric decorative patterns into basic sizes blends with the sizes of other parts of the mosque including structure and construction. Taking another variation of the intricate geometric pattern decoration on the Baghdad Mosque which is one of the mosques in the Middle East into one of the basic patterns combined

Sun Shading


Talawang

Other variations of the intricate geometric pattern decoration of the Baghdad

with talawang ornaments from East Kalimantan. Sun Shading on the main gate wall of the Islamic Center Mosque can be said to be inspired by the walls of the Baghdad Madrasa which has sun shading on each wall that is circular to form a fortress


Intricate geometric patterns

Sun Shading on the main gate wall of the Islamic Center Mosque




Main Gate of Islamic Center Mosque


Stained glass in the form of circles on the right and left which functions as sun shading from the shape of the semicircular main gate is inspired by the shape of the lobby wall of the Prophet's Mosque, where the application of the material used to form wall decorations arranged from bricks forming a semicircle and ornaments with Allah on the right and left which function as lamps.





Material arrangement made from homogenous tile



Brick-based material arrangement



The hallway of the Prophet's Mosque

(Source: Michell, George. 1995. Architecture Of The Islamic World- Its History And Social Meaning. United Kingdom in 1978 by Thames & Hudson).

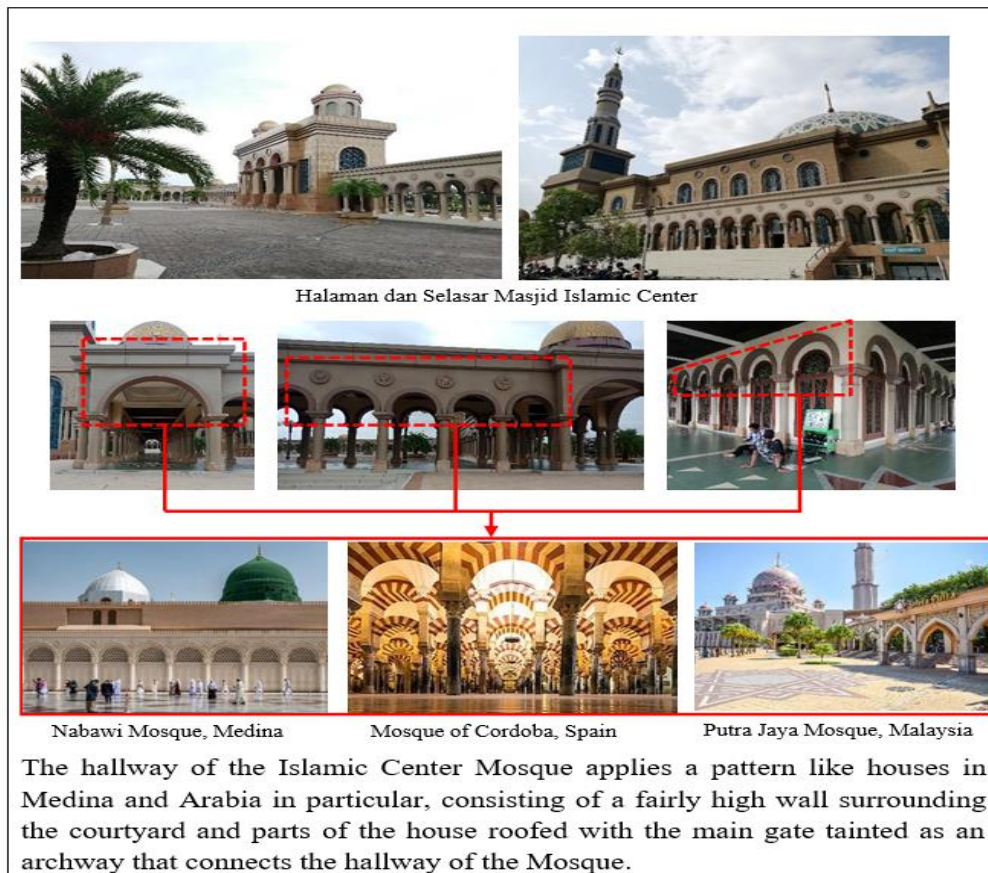
Source: Researcher Analysis, 2020

Conclusion:

It is the phenomenology based on experience that influences the occurrence of a reflection on what already exists in relation to the Mosque. Referring to the application of the elements of the Prophet's Mosque on the entrance wall in the form of a frame with semicircular arches using bricks with a layer of cement because in ancient times the materials only came from Byzantium which used these materials due to climatic considerations (NE McMillan. Fathers and Sons: The Rise and Fall of Political Dynasty in the Middle East. Palgrave Macmillan. p. 33). While the Islamic Center Mosque, the application of architectural elements of the main gate of the Islamic Center Mosque chooses finishing materials in the form of homogenous tiles because of climate considerations and also considerations for the environment and local area.

Similarly, other complementary ornaments also only follow the form (non- material) to reflect nuances similar to differences in environment and region or place. Thus, differences in regions or places become one of the factors creating the application of architectural elements with similar forms with different materials because the meaning and representation of something called culture is produced after passing through material processes that are under certain physical and social circumstances to the concept of cultural materialism.

Walkway/Platform Mosque

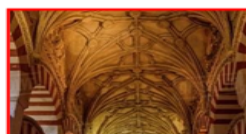


Mosques with a layout like Arab houses called *Hypostyle*, then became a form of flow in designing and building mosques with distinctive characteristics, namely: many columns, a large enough inner courtyard surrounded by walls including pillars on the edges, and other parts of the building.

The application of horseshoe-like curved columns that stretch around the mosque strongly reflects Islamic architecture known as **Moorish Style** architecture, which is seen pillars surrounding the main square in the mosque building in the form of a cylindrical with brown color found in the mosque building of **Cordoba, Spain**. Source: (Sumalyo, Yulianto. 2000. Architecture of Muslim Mosques and Historical Monuments. Yogyakarta: Gajah Mada University Press).



Ceiling of Islamic Center



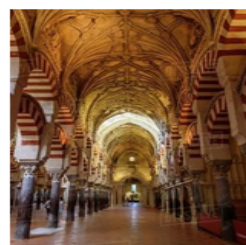
Ceiling of the Great Mosque of Cordoba

The hallway at the Islamic Center Samarinda Mosque is made of siring clay wood material which forms an eight-star pattern facing the floor in the form of a ten-star pattern.

While the Great Mosque of Cordoba, Spain, in the hallway uses the classical architectural form of *Hypostyle* with a covering construction of the *Haram* in the form of a row of eleven gable roofs (the roof contains two sloping boards when viewed from above) and the expose construction on the interior is structurally shown to illustrate a pattern that forms geometric.



Islamic Center Mosque



The Great Mosque of Cordoba

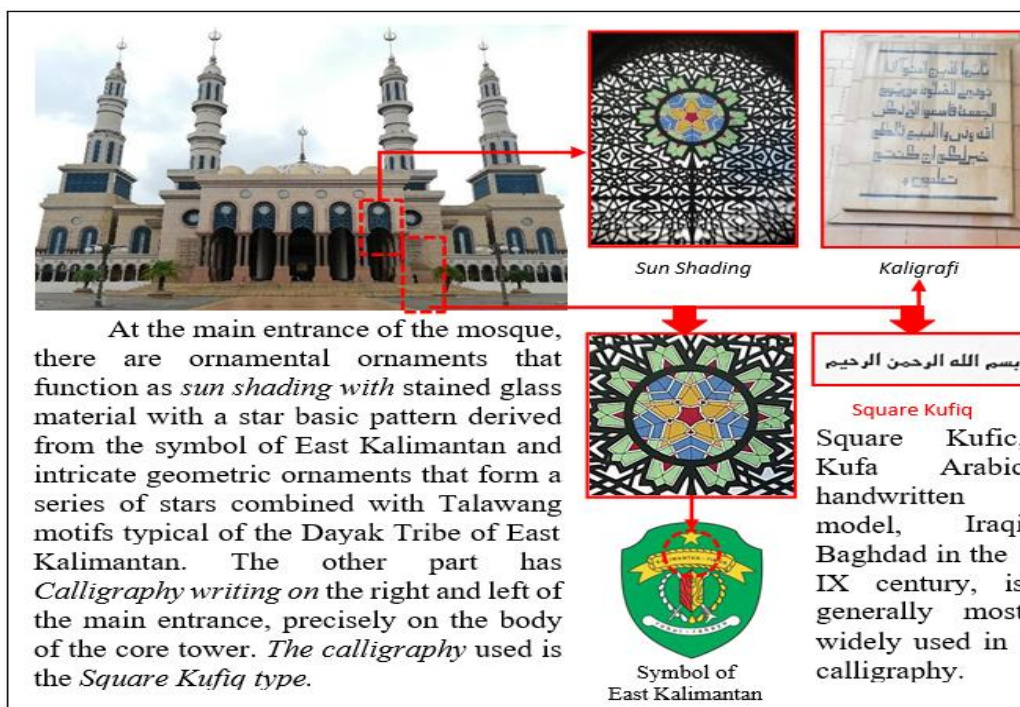
Source: Researcher Analysis, 2020

Conclusion:

Based on the results of the analysis in the description above, it can be concluded that the application of Middle Eastern architectural and interior elements in the Islamic Center Samarinda Mosque contained in the hallway or platform of the Islamic Center Mosque is a similar architectural style and form but in general can be distinguished between two forms or spatial layouts with the mindset of the concept and culture of the community in a place and era where the mosque was established.

The Middle Eastern architectural form of the Islamic Center Mosque occurred as a result of the adoption of structural logical consequences. Structural engineering for architectural (visual) purposes is fairly minin because the Islamic Center Mosque applies Middle Eastern architecture according to material capabilities during its construction.

Main Entrance Of The Mosque



Sumber: Analisa Peneliti, 2020

Conclusion:

Based on the results of the analysis in the description above, there has been a phenomenological event related to the application of Middle Eastern architectural elements at the Main Entrance of the Islamic Center Mosque which proves that the Middle Eastern concept tends to dominate following the architectural application of the Prophet's Mosque in Medina, starting from the front view, in terms of color, shape and structuralist pattern of the building to ornaments that complement following the pattern Geographic-intricate and Square Kufic calligraphy originating from the Middle East are the strongest reasons despite the local cultural motif, East Kalimantan.

CONCLUSION AND RECOMMENDATION

The research discusses the influence of Middle Eastern culture on the city of Samarinda, specifically in the context of Islamic art reflected in the design of mosque ornaments. The Muslim community in East Kalimantan has cultural connections with Arab countries due to their

obligation to perform Hajj and Umrah. This influence is evident in the architectural elements of mosques, with a tendency to follow the style and design of mosques in Mecca and other Arab countries, which serve as role models for Muslims worldwide.

On the other hand, the research highlights the importance of preserving and reflecting local cultural identity. Cultural architectural designs that represent the local identity of East Kalimantan incorporate elements of indigenous tribes, such as the simplification of Dayak Tribe motifs, particularly the shield or Talawang, combined with star-shaped archetypes and colors inspired by the East Kalimantan emblem.

The Islamic Center Mosque in Samarinda does not completely assimilate with Middle Eastern mosques. Instead, it incorporates Middle Eastern forms and styles while incorporating typical East Kalimantan ornaments. This approach allows for the preservation of local cultural elements and signifies the fusion of Islamic civilization from the Middle East with East Kalimantan's distinct architectural characteristics.

The research emphasizes that the people of Samarinda are capable of harmonizing with their natural environment, as reflected in their application of local cultural elements in the design of the Islamic Center Mosque. Their mindset encompasses the wisdom derived from various aspects of their lives, including customary and cultural laws, governance, and daily activities.

Overall, the research explores the intersection of Middle Eastern influences and local cultural identity in the design of mosques, specifically the Islamic Center Mosque in Samarinda, East Kalimantan.

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CHAPTER 4

The Effect of Perceived Emotional Support on Entrepreneurial Intention Mediated By Entrepreneurial Passion

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ABSTRACT

The purpose of this study is to analyze perceived emotional support, entrepreneurial passion, entrepreneurial intention, the effect of perceived emotional support on entrepreneurial passion, the effect of entrepreneurial passion on entrepreneurial intention. This type of research is hypotheses testing. The samples were determined by non probability method, namely convenience sampling with a total of 140 respondents. The data used in this study include primary data and secondary data, in the form of filling out questionnaires by employees as respondents and collected 140 samples. This research uses structural equation modeling (SEM). The results of this study are perceived emotional support has a positive and significant effect on entrepreneurial passion, entrepreneurial passion has a positive and significant effect on entrepreneurial intention. Giving trust to employees can create conditions and situations that employees have an important role to play in building a business.

Keywords : Perceived emotional support, entrepreneurial passion, entrepreneurial intention



INTRODUCTION

During this global crisis and uncertainty with the job vacancies offered, people must be more prepared to face various risks in job vacancies, even the worst being becoming unemployed and open own business opportunities. When people hear the word entrepreneurial, what comes to mind are entrepreneur, businessman, money, profit, and loss, even though entrepreneurship is not always related to money.

Entrepreneurial is a mindset or mindset that every person should have. Beyond the business icon and seeking profit, an entrepreneur will always try to build friendships and socialize with everyone, enriching knowledge by observing more, listening, and being sensitive to opportunities. Entrepreneurs will see everything positively, and the impossible will become possible. Those are some of the characteristics of the mindset possessed by an entrepreneur, better known as entrepreneurial.

Entrepreneurial must also be present in all aspects of life, especially having a central role in the life and development of a region and a country. Low and weak entrepreneurial existence makes the movement and dynamics of society in changing self to achieve progress very slowly. The maximum role of entrepreneurial partners very much determines the economic development of the country of Indonesia in the future. The weakness of developing countries (including Indonesia) is due to weak entrepreneurship. Moreover, weak entrepreneurship is not accompanied or directed towards something that is productive, so it cannot lead to economic progress.

Getting to know the entrepreneurial world knows about entrepreneurs and their work in the entrepreneurial world. An entrepreneur will see a problem as a challenge, and (Chen et al., 2009) say entrepreneurial passion can help him overcome any challenges and difficulties in his business. An entrepreneur is an independent person who can stand alone and dares to open productive activities; he does not depend on any company or government but builds the company. Currently, entrepreneurs in Indonesia are still relatively rare because people are not brave and hesitant to make a decision. One interesting fact about entrepreneurs in Indonesia (in 2018) in developed countries, an average of 14% of the total working-age population are entrepreneurs, while in Indonesia, it only reaches 3.1% and is ranked 94th out of 134 countries (Republika.co.id).

Nowadays, in Indonesia, many business actors are hereditary, which means that their parents' business is passed down or replaced by their children. Alternatively, do not dare to start a new business with relevant ideas in this millennial era. Entrepreneurial passion is very influential in a successful and growing business actor because he has a commitment and clear goals to improve his business. Entrepreneurial passion must always be applied in a business so that employees can understand our vision and mission in building this business.

In the world of entrepreneurs, of course, it needs a perceived emotional support that will affect a person's self-confidence and encourage positive emotions in running a business. The importance of perceived emotional support in a business is that entrepreneurs can feel comfort and peace of mind with a feeling of belonging and be loved when they feel stressed or down. In other forms, they are received as individuals or from other people, or as a group. Emotional support can be in the form of received and perceived support (Fellnhofer, 2017). Perceived support is the perception that the individual forms, i.e., there is assistance and care from other people, while received support is the support that is given through direct action, i.e., the social support of the person can increase the person's sense of self-confidence, skill and generate a feeling of security when doing the exploration of and active participation in life. Without emotional support, an entrepreneur will not feel loved, overburdened, and down when facing problems in the business because there is no support and empathy from family and relatives.

Furthermore, when an entrepreneur has passion, that person will intend to set up his own business or business. This is also supported by findings from research (Fellnhofner, 2017), which state that entrepreneurial passion positively influences increasing entrepreneurial intention. Entrepreneurial intention is the first step in establishing a business that is generally long-term, where this entrepreneurial intention reflects one's commitment and the courage to take risks in the business later. Entrepreneurial intention is crucial for understanding the process of becoming an entrepreneur because intention always precedes every effort to behave as an entrepreneur (Alfonso and Cuevas, 2012). With entrepreneurial intention, for example, an employee must be willing to take risks, be passionate, and be enthusiastic about building or starting a business in the future.

One of the successful entrepreneurs in Indonesia is Johny Andean, who is engaged in the hair salon business and employs thousands of workers across many cities. One of the main important aspects that must be present is having an entrepreneur's spirit, being supported by colleagues, and having emotional stability in running a relatively new business. That way, Johny recruits many employees with a passion for the field of shearers. Therefore, based on the description above, the authors are interested in knowing and analyzing the influence of an entrepreneur's perceived emotional support and task-related competence on entrepreneurial passion and its impact on the entrepreneurial intention of employees at Johny Andean Salon Jakarta.

The design of personal willingness to become a successful entrepreneur arguably depends on the influence of effectiveness in terms of personal characteristics. Therefore, it is imperative to investigate how those three aspects have become the main components of becoming an efficacious business person. Most studies study the relationship between perceived emotional support and entrepreneurial passion or between entrepreneurial passion and entrepreneurial intention (Cardon et al., 2013; Ajzen, 2015; Al-Shammari, 2018). However, we know only very few studies; even these seem to have weak links that have examined those aspects in papaya. This exploratory study is unique because it explores all three factors together. In order to explore linkages between those three components, this study was conducted at a well-known salon that was considered successful in running its business, and this had never been done by scholars before.

2 LITERATURE REVIEW

2.1. Perceived Emotional Support

Perceived emotional support is needed in an organization or company to motivate members to be more productive. According to Marini and Hamidah (2014), support for entrepreneurship can be in the form of moral support such as opportunities, trust, giving ideas, or material support by providing capital, business tools or equipment, and business locations.

Periera *et al.* (2017) revealed that support in the family can be emotional, providing helpful information, giving awards, and instrumental or financial support. The support provided by the family will provide a feeling of comfort and that family members care about one another. Research conducted by Periera et al. (2017) revealed that family support could determine the level of individual intention to do entrepreneurship. Individuals intending to become an entrepreneur need the family's blessing and support as strength, courage, and encouragement to carry it out.

2.2 Entrepreneurial Passion

Entrepreneurial passion in entrepreneurship is needed in building a business toward success. Tasnim et al. (2017) said entrepreneurial passion would shape the desire to act and behave entrepreneurially and bind entrepreneurs to achieve a goal.

Cardon et al. (2010), in their research, have also attempted to understand how passion in entrepreneurship works. Entrepreneurs with passion are happy with their identity as business founders and consider being a founder an essential part of who they are.

2.3 Entrepreneurial Intention

In increasing the entrepreneurial ratio in Indonesia, the entrepreneurial intention is needed. Entrepreneurial intention is the first step in starting a business. According to Mustofa (2014), interest in entrepreneurship is focused on entrepreneurship because of a sense of liking and a desire to learn, know and prove further about entrepreneurship.

Entrepreneurial intention is a state of mind that people want to create new companies or new value drivers within existing organizations (Remeikiene et al., 2013). According to Al-Shammari (2018), entrepreneurial intention shows the effort someone will make to carry out entrepreneurial behavior, which summarizes three motivational factors: personal attitude to become an entrepreneur, personal behavior, and perceived behavioral control. A person starting a business will have better preparation and progress in the business or the business being run compared to someone not intending to start his business.

2.4 Conceptual Framework

The existence of entrepreneurs in Indonesia is still relatively small; this is inseparable from the entrepreneurial intentions of the Indonesian people. Entrepreneurial intention is not automatically formed in a person. Many factors can form someone can have an entrepreneurial desire. According to Mustofa (2014), interest in entrepreneurship is focused on entrepreneurship because of a sense of liking and is accompanied by a desire to learn, know and prove further about entrepreneurship. A person's passion is the main factor in realizing his intention in entrepreneurship. According to Fellhofer (2017), entrepreneurial passion is believed to be able to facilitate entrepreneurial intention, where the more significant the behavioral passion for entrepreneurship, the stronger the individual's intention to achieve it.

Meanwhile, Stenholm and Nielsen (2019) have developed a model regarding the factors that cause entrepreneurial passion to form. In their research, it is stated that the level of entrepreneurial passion a person possesses is influenced by perceived emotional support. Perceived emotional support is very influential and vital to becoming an entrepreneur. Because if an entrepreneur does not feel attention, happiness, and comfort from his family or relatives and employees, it will be difficult to develop if he is facing stress or downturns in his business or business. Thus, it is necessary to conduct further research regarding the effect of perceived emotional support on entrepreneurial passion and its impact on entrepreneurial intention to be implemented at Johny Andean Salon.

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The following conceptual framework can be developed through the explanation above—the effect of perceived emotional support on entrepreneurial passion and its impact on entrepreneurial intention.

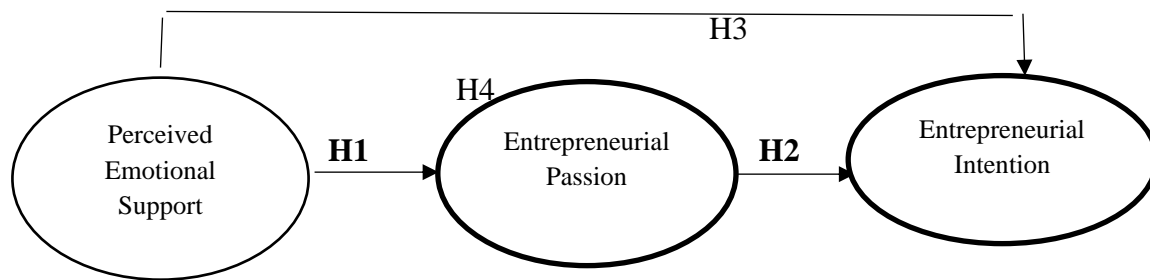


Figure 1 Conceptual Framework

2.5 Hypotheses Development

Perceived Emotional Support and Entrepreneurial Passion

The more perceived emotional support attached to an entrepreneur starts with how they develop entrepreneurial passion as a function of the socialization process. The socialization process of entrepreneurial passion takes place in a parallel two-step process. First, emotional support is related to conveying empathy and concern, which will initially trigger positive emotions and influence an entrepreneur to be more willing to engage with their environment and start entrepreneurial activities. In addition, they can also receive perceptions about objects, ideas, and people around them (Cardon et al., 2013; Wincent et al., 2008).

Financial support is one aspect of perceived emotional support that supports an entrepreneur and characterizes entrepreneurial passion in starting businesses and businesses (Stenholm and Nielsen, 2019). Therefore, entrepreneurs can control the waves of positive emotions that are driven by the belief in the support they receive. Second, getting positive emotional input, initially only lasting for a moment but after receiving support in conveying empathy and caring, must develop into a more substantial feeling to have a long-term effect. This means that the positive emotions that exist internally with entrepreneurs towards certain activities will lead to true passion instead of momentary emotions caused by externals (Cardon et al., 2013; Wincent et al., 2008).

Based on the theoretical basis and the results of previous research, the first hypothesis in this study is as follows:

H1: Perceived emotional support has a positive effect on entrepreneurial passion

Entrepreneurial Passion and Entrepreneurial Intention

The theory of planned behavior (TPB) argues that three different variable attitudes form intentions: attitudes toward behavior, subjective norms, and perceived behavioral control. Attitude reflects the extent to which a person evaluates certain behaviors as encouraging. Subjective norms are perceived social pressures or expectations (Ajzen, 2015). Limbong (2010) added that entrepreneurial knowledge and independent attitudes influence interest in entrepreneurship besides motivation.

Entrepreneurial passion is believed to facilitate entrepreneurial intention, in which the more significant the desire for entrepreneurial behavior, the stronger the individual's intention to achieve it (Fellnhöfer, 2017). In the context of entrepreneurial learning, adequate learning is expected to show the effect of entrepreneurial spirit on entrepreneurial intentions, especially after the instruments have been applied. Based on this, the research hypothesis can be developed:

H2: Entrepreneurial passion has a positive effect on entrepreneurial intention.

Perceived Emotional Support and Entrepreneurial Intention

Perceived emotional support attached to an entrepreneur also influences entrepreneurial intention. Where the entrepreneurial intention is not necessarily formed in a person. Many factors can form someone can have an entrepreneurial desire. According to Al-Shammari (2018), A person starting a business will have better preparedness and progress in a business or business being carried out compared to someone without the intention to start his business.

Dare to take risks is included as part of entrepreneurial intention, where perceived emotional support can support self-confidence and enthusiasm to add to entrepreneurial intentions in the future. Likewise, individuals interested in entrepreneurship need the blessing and support of the family as a form of confidence, strength, and courage to run their business (Periera et al., 2017). With perceived emotional support in entrepreneurial intention, it will certainly add to the high interest in entrepreneurship because this interest is facilitated with more enthusiasm and self-confidence, so confidence in building a business/business will continue to increase, and there will be no doubt in acting as an entrepreneur.

H3: Perceived emotional support has a positive effect on entrepreneurial intention.

Perceived Emotional Support, Entrepreneurial Passion and Entrepreneurial Intention

Perceived emotional support expresses empathy, care, and concern for someone. Stenholm and Nielsen (2019) explain that perceptions of perceived emotional support can trigger entrepreneurial passion through positive emotions, which develop into stronger feelings and passion from entrepreneurial activity. On the other hand, entrepreneurial intention is not automatically formed in a person. Many factors can form someone can have an entrepreneurial desire. A person's passion is the main factor in realizing his interest in entrepreneurship. According to Fellnhofer (2017), entrepreneurial passion is believed to facilitate entrepreneurial intention, where the greater the behavioral passion for entrepreneurship, the stronger the individual is to achieve it. With perceived emotional support and entrepreneurial passion, these two variables can encourage entrepreneurial intention to a positive and strong side and without any doubt to become an entrepreneur.

H4: Entrepreneurial passion mediates the effect of perceived emotional support on entrepreneurial intention

3. METHODOLOGY

3.1 Research Design

This type of research uses hypothesis testing. In this study, data collection was cross-sectional because the data taken resulted from a single deployment at a specified time. The unit of analysis studied was the shearer Johny Andrean Salon.

3.2 Variable and Measurement

The independent variable used in this study is perceived emotional support, where the statement items are developed by Stenholm and Nielsen (2019). The mediating variable in this research is entrepreneurial passion. This variable is measured by ten items developed by Cardon et al. (2013). Then the dependent variable in this study is entrepreneurial intention, measured through 9 items developed by Al-Shammari (2018).

3.3 Population and Sample

The population in this study were shearers from Johny Andrean Salon. The determination of the sample was carried out using a non-probability method, namely convenience sampling. The selected population members were 418, and the sample was shearer Johny Andrean who was at the location when the research was conducted. To anticipate the existence of incomplete or incomplete questionnaires filled out by respondents, 140 questionnaires were distributed

3.4 Research Instrument Testing

From the results of the research instrument testing, all indicators are valid and reliable, as shown in Table 1 and 2.

Table 1
Validity Test

No.	Variable	Indicator	Factor Loading	Conclusion
1	<i>Perceived Emotional Support</i>	PES1	0.824	Valid
		PES2	0.875	
		PES3	0.821	
		PES4	0.751	
2	<i>Entrepreneurial Passion</i>	EP1	0.800	Valid
		EP2	0.817	
		EP3	0.839	
		EP4	0.852	
		EP5	0.747	
		EP6	0.701	
		EP7	0.813	
		EP8	0.805	
		EP9	0.823	
		EP10	0.831	
3	<i>Entrepreneurial Intention</i>	EI1	0.841	Valid
		EI2	0.846	
		EI3	0.887	
		EI4	0.774	
		EI5	0.847	
		EI6	0.819	
		EI7	0.870	
		EI8	0.800	
		EI9	0.764	

Source : Data processed (2023)

Table 2
Reliability Test

Variable	Item	Cronbach's Alpha	Conclusion
<i>Perceived Emotional Support</i>	4	0.943	Reliable
<i>Entrepreneurial Passion</i>	10	0.835	Reliable
<i>Entrepreneurial Intention</i>	9	0.938	Reliable

Source : Data processed (2023)

4. FINDINGS AND DISCUSSION

4.1 Respondent Demographic Characteristics

The number of respondents who participated in this study consisted of 140 respondents and the results obtained were female employees as many as 79 employees with a percentage of 56% and male employees 61 employees with a percentage of 44%. The data shows that there are more female employees than male employees, this is because jobs in salons must have a lot of skills and customers in salons are more women than men.

Respondents aged between 25-30 were the most respondents with a percentage reaching 52%, while the rest were aged less than 26 years by 31% and respondents aged 31-35 by 17%. The data shows that employees aged 25-30 years and 31-35 years are quite experienced. With the experience that employees have, they are qualified and ready to try to design a business according to their passion.

Most of the respondents were graduates of the same high school, followed by junior high school graduates and diploma graduates. High school graduates totaled 109 respondents with a percentage of 78%, junior high school graduates numbered 16 respondents with a percentage of 11%. While D3 totaled 15 respondents with a percentage of 11%. The data shows that the skill of shaving hair can start from junior high school, because Johny Andrean Salon provides Johny Andrean Training Salon for people who want to learn or hone their skills to become shearers in the future.

In terms of marital status, the employees who were the respondents were mostly unmarried as many as 100 people with a percentage value of (71%), the rest were employees with married status of 40 people with a percentage value of (29%). The data shows that the majority of Johny Andrean Salon employees are single. Single employees explained that they focused on improving their skills and individual skills. Married employees are generally people who are more focused on work because they have a direct role in family finances.

Employees who have experience as shearers and have mature skills are found in employees who have worked for 4-6 years and more than 6 years, which means that they are ready experience, mentally and skillfully and they must have the courage to go one step further to make a business / business according to their passion. It is possible for those who have just worked for about 1 year and 1-3 years to open a business/business.

4.2 Descriptive Statistics Analysis

Table 3
Descriptive Statistic Perceived Emotional Support

No	Indicator	Mean
1	Gaining trust in building start up gives a broader meaning compared to getting financial support	4.27
2	Gaining trust in building start up can increase my confidence as an entrepreneur	4.23
3	Gaining trust in building start up can increase my interest in becoming an entrepreneur	4.28
4	Gaining trust in building start up give me the courage to become an entrepreneur	4.28
Total mean		4.26

Source : Data processed (2023)

Based on the descriptive statistical results of the variable perceived emotional support, it is known that the average total value obtained is 4.26 which means that Johny Andrean Salon employees have good perceived emotional support. Which means that every employee really needs trust in building their business/business, so that an employee is brave and confident in making decisions to become an entrepreneur.

Table 4
Descriptive Statistic Entrepreneurial Passion

No	Indicator	Mean
1	I am very interested in finding new, commercializable ways of addressing unmet market needs.	4.17
2	Looking for new ideas about the products/services offered is fun for me	4.27
3	I am motivated to find out how to make the product/service better	4.19
4	Researching the environment for new opportunities really excites me	4.12
5	Starting a new company can get me excited	4.06
6	Having my own company gives me energy	4.09
7	Nurturing new business through the success achieved is fun	4.04
8	I really like finding the right people to market my product/service	4.18
9	Getting the right people to work for my business is a joy	4.14
10	Motivate my employees and myself to make our company more motivated	4.10
Total mean		4.14

Source : Data processed (2023)

Based on the descriptive statistical results of the entrepreneurial passion variable, it is known that the average total value obtained is 4.14 which means that Johny Andrean Salon employees already have high entrepreneurial passion. Which means employees must be motivated to become an entrepreneur in their own passion. Especially an entrepreneur must be motivated in seeking new opportunities and finding new products that can be commercialized. So their businesses that are in accordance with passion are more likely to become profitable businesses and last longer than those who do not have passion.

Table 5
Descriptive Statistic Entrepreneurial Intention

No	Indicator	Mean
1	I am ready to do anything to become an entrepreneur	4.08
2	My professional goal is to become an entrepreneur	4.14
3	I will make every effort to start and run my own business	4.17
4	I am determined to create a new business in the future	4.03
5	Someday I have serious thoughts about starting my own business	4.02
7		4.12
7	I plan to take steps to start a business in the next 12 months	4.15
8	I intend to take steps to start a business in the next 12 months	4.10
9	I will try to take steps to start a business in the next 12 months	4.12

Based on the descriptive statistical results of the entrepreneurial intention variable, it is known that the average total value obtained is 4.10 which means that Johnny Andrian Salon employees have high entrepreneurial intention. Which means employees are ambitious in becoming an entrepreneur and they are determined to make a business/business in the future.

4.4 Discussion

For Hypothesis 1, the results of data analysis obtained a coefficient value of 0.834 and a p-value of 0.000. It can be seen that the p-value <0.05 means that H1 is supported, meaning that perceived emotional support has a positive effect on entrepreneurial passion directly. The results of this study support research from Stenholm and Nielsen (2019) and Fellnhofer (2017) which provide evidence that increasing perceived emotional support can strengthen entrepreneurial passion.

Perception of emotional support makes a person's basis for entrepreneurship. Emotions can direct individual behavior to become entrepreneurs (Hatak and Snellman, 2016). Periera et al. (2017) revealed that family support can determine the level of individual intention to do entrepreneurship. Individuals intending to become an entrepreneur need the family's blessing and support as strength, courage, and encouragement to carry it out.

Gielnik et al. (2015) explained that increased effort in entrepreneurial activities results from perceptions of emotional support, and this increased involvement over time could lead to entrepreneurial passion. Through this series of processes, it will form entrepreneurial passion. It can be concluded that emotional support will create a passion for entrepreneurs to increase commitment and enthusiasm for their business/business if problems occur. Employees who work at Johnny Andrian Salon receive moral support such as trust, new ideas, and motivation from their work environment which can encourage individual intentions in entrepreneurship.

Hypotheses 2 testing shows a coefficient value of 0.562 and a p-value of 0.000. It can be seen that the p-value <0.05 means that H2 is supported, meaning that entrepreneurial passion has a positive effect on entrepreneurial intention. These findings explain that entrepreneurial passion can increase entrepreneurial intention. The results of this study support the research of Stenholm and Nielsen (2019) and Fellnhofer (2017), which proves that entrepreneurial passion can facilitate entrepreneurial intention, where the more significant the desire for entrepreneurial behavior, the stronger the individual's intention to achieve it.

The theory of behavioral planning (TPB) argues that three attitude variables differ in forming intentions: attitudes toward behavior, subjective norms, and perceived behavioral control. Attitude will reflect how much a person evaluates certain behaviors as encouraging. Subjective norms are perceived social pressures or expectations (Ajzen, 2015). In the context of entrepreneurial learning, adequate learning is expected to show the effect of entrepreneurial spirit on entrepreneurial intentions, especially after the instruments have been applied.

Entrepreneurial intention is significant for understanding the entrepreneurial process because intention always precedes every effort in entrepreneurial behavior (Alfonso & Cuevas 2012). Suharti et al. (2011) explain that several factors driving student intentions to entrepreneurship are internal factors that come from a person, such as attitudes and socio-demographics related to gender, experience in entrepreneurship, family background, and others, while external factors come from outside oneself. A person, such as the surrounding environment and contextual

conditions. In their research, Alessandro and Vita (2016) suggested that entrepreneurial passion has a strong positive relationship with entrepreneurial intention.

It can be concluded that the employees at Johny Andrean Salon already have their passion, especially in the shearer section; with this, the employees must have a vision for the future of the business that will be carried out accompanied by a commitment to themselves. In addition, employees need to think positively because if employees think they fail, it can affect their self-confidence. The most important thing is to dare to take risks; this will automatically lead in the right direction because it is an opportunity to grow and develop to be better.

For hypothesis 3, the results of data analysis obtained a coefficient value of 0.153 and a p-value of 0.166. It can be seen that the p-value > 0.05 means that H3 is not supported, meaning that perceived emotional support does not affect entrepreneurial intention. These results explain that perceived emotional support cannot increase entrepreneurial intention. The results of this study are in contrast to the research of Stenholm and Nielsen (2019) and Fellnhofner (2017) because interest in entrepreneurship is focused on entrepreneurship because of a sense of liking and accompanied by a desire to learn, know and further prove their interests. Entrepreneurial interest arises because of knowledge and information about entrepreneurship, which is then continued to participate directly in order to seek experience and finally arises the desire to do entrepreneurship with the experience that has been obtained. It can be concluded that Johny Andrean Salon employees have experience related to their preferred field. However, most employees feel comfortable working at Johny Andrean Salon because the company provides benefits, rewards for performance, and provides facilities such as attending training seminars in shaving. Therefore employees are unwilling to take risks such as opening a new business/business.

While for hypothesis 4 testing, a coefficient value of 0.576 and a p-value of 0.000. It can be seen that the p-value < 0.05 means that H4 is supported, meaning that perceived emotional support has a positive effect in mediating entrepreneurial passion on entrepreneurial intention. The results of this study support research from Stenholm and Nielsen (2019) and Fellnhofner (2017), which proves that the increasing perceived emotional support in mediating entrepreneurial passion, the stronger the influence on entrepreneurial intention. Several factors can shape a person's desire or interest in entrepreneurship. Perceived emotional support and passion are the main factors and drivers in realizing his interest in entrepreneurship.

Fellnhofner (2017) explains that entrepreneurial passion is believed to be able to facilitate the entrepreneurial intention. It can be concluded that the employees who work at Johny Andrean Salon already have their passion, namely being a shearer. That way, employees already have the provision and experience to become entrepreneurs. Perceived emotional support is the main driver for employees to dare to take risks and have confidence in becoming entrepreneurs because without strong perceived emotional support, their interests and passions are just dreams, and it is not easy to achieve these goals.

5. CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

With this study, we extend extant research by detailing the influence of perceived emotional support where employees believe that the salon supports entrepreneurial passion—beliefs about perceived emotional support related factors to have entrepreneurial passion for achieving entrepreneurial intention. Of the four hypotheses put forward, it turns out that hypothesis 3 is not supported. Namely, perceived emotional support has a positive influence on entrepreneurial intention. Nevertheless, the study detail how entrepreneurial passion might be triggering the positive effect of perceived emotional support on entrepreneurial intention.

5.2 Recommendations

The recommendation of this study: it is expected that in addition to improving emotional support and entrepreneurial passion, the management must play a more active role in dealing with employees' willingness to do more varied works, which requires strong support from the company. These insights could set the stage for continued examinations in various research settings

Research Limitation

The research was conducted at Johnny Andrean Salon with 140 respondents

The research variable only consists of perceived emotional support, entrepreneurial passion, and entrepreneurial intention

Suggestions for Future Research

Further research can also be conducted on other start-ups and increase the number of respondents participating.

Add independent variables influencing entrepreneurial intention, like perceived educational support and informal and formal network support.

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CHAPTER 5

THE IMPACT OF PROFITABILITY, OPERATIONAL COSTS, AND SIZE ON THE CORPORATE INCOME TAX IN FOOD AND BEVERAGES COMPANIES LISTED ON THE IDX PERIOD 2016 – 2021

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ABSTRACT

This research was conducted with the aim of analyzing the effect of profitability, operational cost, and size on corporate income tax expenses in Food and Beverages Companies listed on The IDX period 2016 – 2021. The sample in this research was 15 companies, uses purposive sampling. The analytical method used regression panel data with Eviews version 9. The results showed that profitability and size had a significant positive effect on corporate income tax, operational costs had no effect on corporate income tax.

Keywords : Profitability, Operational Cost, Size, and Corporate Income.

1. INTRODUCTION

Indonesia is a developing country with a dense population and abundant resources. Its natural resources and human capital attract investors, resulting in a growing number of companies in the country. This serves as a way to generate income, as the country relies not only on natural resources but also on taxes collected from taxpayers across Indonesia (Anggraeni & Arief, 2022). Taxation is the largest domestic source of revenue, as direct tax revenue can be processed immediately to fund various state needs. In the 2021 state budget, taxes contributed 72.89% of total revenue, making them a crucial backbone for driving the country's development (Kemenkeu, 2021). The goal of national development is to improve the welfare of its people. Tax funds are allocated not only for development purposes but also for other sectors such as national infrastructure, public facilities, and social funds to address the people's hardships. Indonesia continues

its economic development with a focus on the industrial sector (Arianti, 2020). Additionally, taxes play a role in improving human quality in various aspects. Therefore, it is expected that the contribution of tax revenue to the country will increase each year.

Tax is considered an expense that companies must pay to reduce their net profit. The higher the amount of tax borne by a company, the smaller its annual net profit. Income tax is the burden that companies pay based on the income they earn during a fiscal year or tax period (Ningsih et al., 2022). Income tax payable, or payable income tax, is calculated based on taxable income and must be paid at a specific time according to tax laws. The tax burden of a company can be determined by the size of its profits and expenses, so companies need to improve productivity and manage finances effectively. Profitability is an important factor in financial management and is measured by the company's ability to generate sales revenue. It is an indicator of management effectiveness in asset utilization (Firdiansyah et al., 2019). Companies aim to increase profitability, as higher profits lead to increased returns for investors and attract more potential investors. However, if a company's gross profit margin decreases over time while its operating income remains constant, it may be due to higher sales, administrative, and general expenses compared to its sales levels.

Sales costs, marketing costs, and general administrative expenses are part of a company's operational costs (Hendrik & Rahmawati, 2021). Operational costs are expenses necessary to keep production activities running. The larger the operational costs, the lower the tax the company has to pay (Basyir & Istichanah, 2022). Corporate income tax is the largest contributor to corporate taxes. Large companies have the ability to plan their taxation more effectively, but sometimes they may have to pay higher taxes due to resources outside of operations, resulting in high tax expenses. Companies listed on the Indonesia Stock Exchange, especially in manufacturing industries such as basic metals and food and beverages, demonstrate a high level of trust in their financial reports. The food and beverage industry has stable growth and is not negatively affected by the COVID-19 pandemic. This industry also absorbs a significant amount of the workforce and recorded positive growth in 2020 and 2021 during the pandemic (BPS, 2022). Based on the research background above, the researcher is interested in discussing the research entitled "The Influence of Profitability, Operational Costs, and Size on the Corporate Income Tax Expense Payable in Food and Beverage Companies Listed on the IDX for the 2016–2021 Period."

1.1 Research Problem and Research Question

This study develops several research questions which are as follows:

1. Does profitability affect corporate income tax burden of food and beverage companies?
2. Does operational cost affect corporate income tax burden of food and beverage companies?
3. Does the size of the company affect corporate income tax burden of food and beverage companies?

2. LITERATURE REVIEW

2.1 Literatur Review from each variable

2.1.1 Tax

Tax is a mandatory contribution to the state, imposed on individuals or entities based on the law, without receiving direct compensation, and used for the benefit of the state and the welfare of the people. Tax is a compulsory payment (can be enforced) without receiving direct compensation, and it is used to cover general expenses (Hendrik & Rahmawati, 2021).

2.1.1 Corporate Taxpayer

Corporate taxpayer is a legal entity recognized as a separate legal entity from its owners and has an obligation to pay taxes on the income it earns in accordance with the applicable tax laws (Kalventri, 2022)

2.1.3. Corporate Income Tax Payable

Corporate Income Tax Payable refers to the amount of tax that a company is obligated to pay to the tax authority based on the income earned during a specific accounting period, after considering relevant deductions and tax benefits (Prasetyoningrum, 2019)

2.1.4 Profitability

This ratio is used to evaluate the business's capacity to seek maximum profit (Nainggolan & Febriansyah, 2021) is called the profitability ratio. This ratio can be used to measure the effectiveness of a company's management. (Kismanah et al., 2022) states that the ratio used to assess a company's ability to generate profits is the profitability ratio, which demonstrates the measure of effectiveness in managing a firm's assets.

2.1.5 Operating Cost

Operational costs are the expenses incurred in running a business related to the promotion or sale of goods or services, as well as the general operational control and administrative functions of the company (Anggraini & Kusufiyah, 2020). Operational costs, also known as business expenses, are the costs associated with the day-to-day operations of a company but not directly related to its products (Anggraeni & Arief, 2022)

2.1.6 Company Size

Company size can be adjusted by parameters such as the number of employees, total assets, sales, and number of outstanding shares. According to Prasetyoningrum, (2019) one of the indicators used to determine company size is the total assets owned. The greater the number of company assets, the more likely the company can be included as a large company. Generally, large companies tend to be more active in tax management than small companies.

2.2 Previous Research

There have been previous research and empirical studies on financial performance that contribute to corporate income tax. This includes, among other things, research on company operating costs and company size. There are also various studies to study the relationship between profitability and corporate income tax, including several ratios such as net profit margin. Even so, there are still many different results from previous studies, giving rise to research gaps to be studied.

2.3 Hypothesis Development

We develop hypotheses to provide clarification of the problem statement or research questions:

H₁: Profitability has a positive effect on the corporate income tax expense payable for food and beverage companies listed on the IDX for the period 2016–2021.

H₂: Operating costs have a positive effect on the corporate income tax expense payable for food and beverage companies listed on the IDX for the period 2016–2021.

H₃: Company size has a positive effect on the corporate income tax expense payable for food and beverage companies listed on the IDX for the 2016–2021 period

2.1 Research Framework

Figure 2.1 shows the research framework. For independent variables, independent variables are used consisting of profitability (X_1), operating costs (X_2), and company size (X_3). For the dependent variable, this study uses corporate income tax.

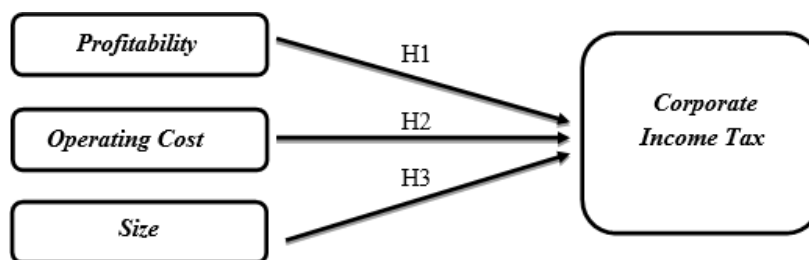


Figure 2.1 Research Framework

3. Research Methodology

The research model applied in this study is panel data regression. The sample used is a combination of time series data (2016–2021) and cross-sectional (15 companies) or panel data. The dependent variable used in this study is corporate income tax, while the independent variables are profitability, operational costs, and firm size. The operational definition of measuring the research variables can be seen in table 3.1

Table 3.1 Measurement Variable

Variable	Symbol	Measurement	Variable Scale
Corporate Income Tax	CIT	$\frac{\text{Income Tax Expense}}{\text{Profit Before Tax}} \times 100\%$	Ratio
Profitability	NPM	$\frac{\text{Net Income}}{\text{Net Sales}} \times 100\%$	Ratio
Operating Cost	COST	$\frac{\text{Sales Cost}}{\text{Administration and general fee}} \times 100\%$	Ratio
Company Size	SIZE	Ln(Total Asset)	Ratio

Source: Data Processed

3.1 Analysis Method

The analytical method used consists of descriptive statistics and panel data regression analysis, which aims to examine the effect of the independent variables on the dependent variable. In this study, the regression model used is as follows:

$$CIT_{it} = \alpha + \beta_1 NPM_{it} + \beta_2 COST_{it} + \beta_3 SIZE_{it} + e_{it}$$

Information:

α = Constant

$\beta_1 - \beta_3$ = Coefficient

Regression CIT = Corporate

Income Tax

NPM = Profitability (Net Profit Margin)

COST = Operating Cost

SIZE = Company Size

e_{it} = Error

it = Number of Companies and Year

Testing the panel data regression model is carried out in stages

1. Testing the fit model with the coefficient of determination (R^2), which

explains how much the variation of the independent variable is able to explain the variation in the dependent variable

2. Global test (F test) to test whether there is at least one independent variable that has a significant effect on the dependent variable with the hypothesis stages
 - a. $H_0 : \beta_1 = \beta_2 = \beta_3 = \dots = \beta_k = 0$ which means that all independent variables do not affect the dependent variable.

H_a : there is at least one independent variable that influences the dependent variable Decision making If the p-value of $F \leq 0.05$ then H_0 is rejected If the p-value of $F > 0.05$ then H_0 is accepted.

3. Individual Test (t test) to test the effect of each independent variable on the dependent variable with Testing steps

a. $H_0 : \beta_i = 0$ which means that certain independent variables do not affect the dependent variable

b. $H_a : \beta_i \neq 0$, which means that certain independent variables affect the dependent variable Decision making If the p-value of $t \leq 0.05$ then H_0 is rejected If the p-value of $t > 0.05$ then H_0 is accepted.

3. RESULT AND DISCUSSION

Table 4.1 Descriptive Statistical Results

	NPM	COST	SIZE	PPH
Mean	0.109039	2.217978	6.365857	0.239507
Median	0.075897	1.887402	6.462725	0.245133
Maximum	0.390021	7.426863	8.253716	0.342948
Minimum	0.000202	0.417325	3.078094	0.032015
Std.Dev.	0.092027	1.261328	1.074791	0.052763
Observations	90	90	90	90

Source: Data Processed (Eviews12)

4.1 Model Selection Test

4.2 Chow Test

The Chow test is used to determine whether the right panel model is used, whether the common effect model (CEM) or the Fixed Effect Model (FEM). The results of the Chow test are shown in table 4.4. The processing results obtained a cross section chi-square p-value of $0.000 < 0.05$, which means that H_0 is rejected (H_a is accepted) so that it can be determined that the selected model is the Fixed Effect Model.

Table 4.2 Chow Test

Model	Cross-section Chi-square	Prob.
Corporate Tax Income	181.873793	0.000

Source: Data Processed (Eviews12)

4.3 Hausman Test

The Hausman test is used to test if from the Chow test results a Fixed Effect Model (CEM) is selected. The Hausman Test is used to determine which model is the Fixed Effect Model or the Random Effect

Model (REM). The results of processing for the Hausman test are shown in table 4.4. The results of the Hausman test obtained a CrossSection Random value of 0.000 < 0.05, therefore the correct model used in this research is the Fixed Effect Model.

Tabel 4.3 Hausman Test

Model	Cross-section Random	Prob.
Corporate Tax Income	179.547197	0.0000

Source: Data Processed (Eviews12)

4.4 Research Hypothesis Testing Results

Table 4.4 shows the results of the regression. The results of testing the fit model produce an adjusted R square value of 0.6854, which means that variations from the independent variables, namely profitability, operating cost and company size are able to explain the variation of the dependent variable, namely corporate tax income, of 68.54%, while the rest, namely 31.46%, is the variation of other independent variables that affect corporate tax income but are not included in the model. The global test results yield a statistical F value of 65.66112 with a p-value of 0.05, which means that H_0 is rejected and H_a is accepted, so it can be concluded that there is at least one independent variable that has a significant effect on the dependent variable.

Table 4.4 Output t-Test (Partial Test)

Variable	Prediction	Coef (B)	Sig.
NPM	+	480119.7	0.0292
COST	+	4008.908	0.8070
SIZE	+	0.015266	0.0000
R-squared	0.696095		
Adjusted R-squared	0.685494		
F-statistic	65.66112		
Prob (F-statistic)	0.000000		

Source: Data Processed (Eviews12)

4.5 Result Analysis and Discussions

1. Profitability Affect Corporate Income Tax

The Profitability variable has a calculated t-value of 4.428373 with $\alpha = 5\%$. Based on the t-table, the critical t-value is obtained with $df = 86$ and $\alpha = 5\%$, which is 1.663. Therefore, the calculated t-value is greater than the critical t-value, leading to the rejection of the null hypothesis (H_0). The results of the test indicate that the profitability variable has an influence on the corporate income tax payable of food and beverage companies listed on the Stock Exchange (BEI) from 2016 to 2021. The findings of this study align with the proposed hypothesis that profitability has a positive impact on the corporate income tax payable. The results of the observations conducted are consistent with the observations made by (Kismanah et al., 2022) and (Anggraini & Kusufiyah, 2020), indicating that profitability has a significant influence on the corporate income tax payable. However, the observations conducted yield different results from those obtained by Wulandari (2022) who found that profitability does not have a significant influence on the corporate income tax payable.

1. Operational costs affect corporate income tax

The size variable has a t count of -0.507281 with $\alpha = 5\%$. Based on the t table, a critical t is obtained with $df=86$ and $\alpha=5\%$, namely 1.663. So, $t_{arithmic} < t_{critical}$ so that H_0 is accepted. This means that the operational cost variable does not affect the corporate income tax burden payable for operational costs and does not succeed in minimizing future risks, so companies must be even more careful in spending the costs needed by these companies. If the result is lower operating costs, the better the company minimizes losses. The results of observation that have been made are in accordance with the observations of (Kalventri, 2022) and (Anggraeni & Arief, 2022) namely operational costs do not have a significant effect on corporate income tax payable. However, the observations that have been made have different results from the results that have been carried out by (Arianti, 2020), (Ningsih et al., 2022) and (Anggraini & Kusufiyah, 2020) which states that operational costs have a significant positive effect on corporate income tax expense.

2. Company Size Corporate Income Tax

The size variable has a t count of 10.35961 with $\alpha = 5\%$. Based on the t table, a critical t is obtained with $df = 86$ and $\alpha = 5\%$, namely 1.663. So, $t_{count} > t_{critical}$, so H_0 is rejected. This means that the size variable has an effect on the corporate income tax expense payable; companies that have a high number of assets can generate high profits. In contrast to companies that have a low number of assets. The company must try hard to generate high profits. So companies that have large profits must pay their corporate income tax according to a predetermined rate. The higher the taxable income, the higher the tax that will be paid by the company. The results of this observation are in accordance with the observation made by (Arisandy, 2021) namely that company size has a positive effect on corporate income tax payable. However, this observation is different from the results obtained by (Prasetyoningrum, 2019) namely that size does not affect the burden of corporate income tax payable.

CONCLUSION

Based on the analysis of the food and beverage companies listed on the IDX from 2016 to 2021, it can be concluded that profitability and size have a significant positive impact on the corporate income tax burden. Companies with higher profitability face larger tax liabilities, while larger companies tend to have higher tax burdens due to their resources and economic influence. On the other hand, operational costs do not directly affect the tax burden. These findings highlight the importance of considering profitability, size, and operational costs in tax planning and management for food and beverage companies operating in Indonesia. Further research is needed to explore additional factors and potential interactions that may influence the tax burden of companies in this industry.

RECOMMENDATIONS FOR FURTHER RESEARCH

After observing and testing the existing dependent and independent variables, the researcher makes the following suggestions:

1. This research is expected to be able to add references for further research in similar fields but to be further developed, for example, by increasing the time period so that more data is used and adding variables that affect corporate income tax payable in order to add to the research base.
2. Companies are expected to be able to manage current assets, profits, capital, and debt carefully and wisely so that they have good ratios and costs in the sense that they are not too low or too high in the eyes of investors and creditors.
3. It is hoped that the government will be more stringent and thorough in supervising the course of taxation activities in accordance with Indonesian law so that state revenue from taxes can always increase.

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DEVELOPMENT OF THE CREATIVE ECONOMY THROUGH THE USAGE OF NEW BATIK MOTIF AS AESTHETICAL ELEMENT OF INTERIOR ORNAMENT

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ABSTRACT

Batik is part of the Javanese and Indonesian cultural heritage. It is made by using hot wax and a tool called canting, with a fairly lengthy process that requires special skill. Initially batik was used only as clothing for the royal family, but today batik can be worn by the general public, used as accessories, and even as shaped into interior ornaments, such as chair covers, pillowcases, curtains, runners, lampshades, and others. Traditional batik motifs consist of shapes and colors that have meanings, reflective of the distinctive and unique philosophy of the Javanese people. The process of making contemporary batik motifs is carried out using the shape transformation method, while still paying attention to the principles that shaped the original form. The goal is to enrich the variety of Indonesian batik motifs to keep up with times and market demand, but still maintain a visual traditional Indonesian feel. It is hoped that by creating new batik motifs that are more modern and diverse, it will inspire more creativity in the form of art, textiles, as well as better appreciation by the general public, thereby increasing business opportunities in the creative economy.

Keywords : Batik Motif, Interior Design, Creative Economy, Ornament

1. Introduction

The creative economy encompasses the process of creating, producing, and distributing goods and services that rely on creativity and intellectual ability (Valentine Siagian et al., 2020). According to the official website of Indonesia's Ministry of Tourism and Creative Economy (Indonesian: Kementerian Pariwisata dan Ekonomi Kreatif [KEMENPAREKRAF]), Indonesia has 17 sub-sectors within the creative economy. These sub-sectors include game development, architecture, interior design, music, fine arts, design, fashion products, film, animation & video, photography, visual communication design, television & radio, crafts, advertising, performing arts, publishing, and applications. The development of the creative economy in Indonesia is often considered a cornerstone of the national economy, thus requiring significant improvement and advancement. In the creative industry, the batik industry has been globally recognized and serves as a cultural emblem of Indonesia. This research focused on the cultural aspect of enhancing the creative industries in Indonesia, with batik as the chosen subject. Batik was selected in this study because of holding a special significance as it is a cultural heritage passed down by our ancestors, distinguishing it from the textile traditions of other nations. It also represents a unique identity of the Indonesian nation. On October 2, 2009, Indonesian batik was officially recognized as an intangible cultural heritage by UNESCO, leading to the establishment of National Batik Day. According to the UNESCO website, batik is deeply rooted in Indonesian culture, encompassing techniques, symbolism, and cultural practices. It serves as a reflection of the diverse Indonesian culture, evident in the multitude of meaningful motifs and patterns that vary across different regions.

In the past, batik cloth in Indonesia, particularly in Java, was exclusively worn by the royal family and nobility. However, over time, starting from the 19th century up until today, batik has become accessible to the general public. Its usage has also expanded beyond clothing, with batik being used as decorative ornaments for various products. As a result, the development of batik motifs and their creation process has become more liberal, breaking away from traditional rules concerning motif application, shapes, colors, sizes, and usage. Observing this phenomenon, there is potential for a broader development of batik motifs while still respecting the original motif's rules. The objective of this study was to enrich the diversity of Indonesian batik motifs, aligning them with contemporary trends, industry, and market demands, while preserving the visual essence of traditional Indonesian aesthetics.

2. LITERATURE REVIEW

2.1 The Creative Economy

The term "creative industries" gained prominence with the establishment of the Creative Industries Task Force by the British Department of Culture, Media, and Sport (DCMS) in 1997. In 1998, DCMS defined creative industries as those that originate from individual creativity, skills, and talent, and possess the potential to generate wealth and employment through the creation and exploitation of intellectual property and content. This concept has been adopted by several countries worldwide, including Sweden, Norway, Singapore, New Zealand, and Indonesia. In Indonesia, the term used is "creative economy." The creative economy has become familiar to the general public in the digital era. It refers to a business approach that places a priority on creative concepts across various sectors. The development of the creative economy program in Indonesia began in 2006 and has continued to evolve, with the establishment of the Creative Economy Agency (Indonesian: Badan Ekonomi Kreatif [BEKRAF]) in 2015.

Alvin Toffler (1980) proposed a theory outlining the progression of economic civilizations, identifying three waves: agriculture, industrial economics, and the information economy. Toffler further predicted the emergence of a fourth wave, known as the creative economy. The creative economy is fundamentally connected to creativity, ideas, and human resources, integrating them with digitalization. Essentially, the creative industry relies on the creative abilities, skills, and

talents of individuals involved in a specific field. However, it cannot thrive in isolation from other sectors. The creative industries must collaborate and support various sectors, including education, technology, trade, tourism, defense & security, politics, and social & cultural domains. As a result, creative products generated from the creative industries are created and distributed across diverse platforms.

The characteristics of the creative economy include intellectual creations, replaceability, direct-and-indirect distribution, the need for cooperation, idea-based nature, and unclear boundaries. To thrive in the creative economy, individuals involved must constantly innovate and create new products to adapt to evolving times, trends, and markets. Implementing creative economy policies can yield broad benefits for the community, such as generating new job opportunities, inspiring creativity among individuals, fostering innovation in all fields, promoting healthier business competition, and reducing unemployment rates. While the creative industry may currently be relatively small and less significant, it is experiencing growth and gaining popularity, particularly among young people. Additionally, government support is crucial in establishing comprehensive creative industry facilities that serve as collaborative spaces for industry stakeholders, including activists, producers, and consumers.

2.2 Batik

Batik is not exclusive to Indonesia; its presence can be traced back to Egypt as early as the 4th century. Evidence of cloth adorned with wax and patterns used to cover mummies has been discovered. The exact origins and techniques of batik production remain uncertain. Various experts hold different opinions on its origin. Some argue that batik originated outside Indonesia, such as India, China, Sri Lanka, Gujarat, and South Africa, and was subsequently spread through trade across Asia, including Indonesia. On the other hand, some contend that batik has Indonesian roots. This view is supported by research conducted by Suharto et al. in the book “Indonesia is Beautiful: Batik” (Indonesia Indah: Batik) published by BP3 TMII, which highlights the discovery of ornamental or painted sites on the interior walls of caves in Kalimantan. The employed painting techniques resemble those found in batik art. However, the research has not yet delved into the detailed transformation of cave wall paintings into batik art.

Batik in Indonesia is a cultural heritage passed down from the ancestors, combining technology and art. Its history is closely intertwined with the Majapahit Empire, particularly during the spread of Islam in Java. It flourished further during the era of the Mataram Sultanate and reached its pinnacle during the reigns of the Yogyakarta Sultanate and the Surakarta Sunanate. Batik is a fabric adorned with patterns or motifs created by applying hot liquid wax using a tool called a canting. This wax acts as a barrier for colors during the painting process. The making of batik involves a special technique that distinguishes it from other motifs. It is a manual process that requires expertise and considerable time, making batik highly valued among enthusiasts. Traditional batik motifs are characterized by cultural symbols and colors that convey unique philosophical meanings. The process of applying hot wax and using the canting tool to create intricate dot-like patterns resembles writing the word “batik”.



Figure 1. Hand-drawn batik, created using hot wax, a canting tool, and cloth, typically done while sitting on a bench or the floor

Traditional Indonesian batik is created through a manual process using essential tools, including plain cloth, a canting (a tool for applying hot wax), hot wax, and a firebox. The batik-making process involves several stages:

1. The first step is to create a pattern or image on the plain cloth and apply hot wax using the canting, following the desired pattern. Once all the patterns are covered with hot wax, they are left to cool and dry.
2. The next stage is coloring, known as “*nyolet*,” where colors are applied to the uncovered parts of the cloth according to the pattern.
3. Once the coloring is complete, the colored sections are covered again with hot wax.
4. After the wax has dried, the entire cloth is dyed in a specific overall color, known as “*ngelir*.”
5. Once the cloth is fully colored, it undergoes the “*nglorod*” process, where it is washed with boiling water to remove the wax.
6. After the wax has been completely removed, the cloth is dried under the sun.



Figure 2. The Stages of the Batik-Making Process
(Source: Compiled from various sources, 2023)

Batik, originally worn exclusively by kings and nobles during ancient times, is now accessible to the general public as both formal and casual attire. Over time, the production of batik evolved, transitioning from hand-drawn batik to stamped batik in the early 20th century. Hand-drawn batik is considered the most expensive and classic type of batik due to the intricate skills, precision, patience, and time-intensive process required for its production. In contrast, stamped batik or printed batik involves using a printing press or copper stamps with batik patterns. This method enables faster production and mass manufacturing. As the demand for batik cloth grew in the market, batik-printing techniques emerged. This method, also known as screen-printing batik, resembles the process of screen printing. It allows for mass production within a shorter timeframe by utilizing cloth printing machines. Moreover, the price of printed batik is relatively more affordable compared to hand-drawn and stamped batik.



Figure 3. Initially, batik cloth was exclusively reserved for kings, nobility, royal dancers, and courtiers during royal ceremonies.
(Source: Compiled from various sources, 2023)

Batik motifs are intricate patterns formed by combining lines, shapes, and isen-isen (English: small dots), which serve as visual guides on batik fabric. Each hand-drawn batik motif holds its unique shape and meaning, reflecting the philosophical aspects of the local community and region. Moreover, these motifs often exhibit variations within their designs. Originally, batik motifs featured a distinctive appearance with a white or brown base color, called *sogan*. Traditional Javanese batik motifs showcase a wide range of patterns, but they share a common characteristic: they predominantly consist of brown, white, and black colors. Notable examples include the Parang motif and the Kawung motif. Among Javanese, the Parang motif is known as the Parang Lidah Api motif or only the Lidah Api motif (English: Flame motif), which is recognized for its bold diagonal lines. Historically, it was exclusively reserved for royalty and their descendants, leading to its association with the “batik ban” group. On the other hand, the Kawung motif resembles clusters of kawung fruit (coconut or areca palm) arranged in a geometric pattern. Symbolically, the Kawung motif represents perfection, purity, and holiness.



Figure 4. Examples of Parang and Kawung Batik Motifs

(Source: Compiled from various sources, 2023)

Batik has experienced significant growth and recognition as Indonesia's cultural heritage, evolving into a highly intricate art form. It remains a subject of extensive research and discussion, encompassing its historical significance, diverse design motifs, intricate processes, coloration techniques, and underlying meanings. The rich philosophy embedded within the multitude of batik patterns continues to captivate scholars and enthusiasts alike, shedding light on the cultural traditions and customs that shape its creation.

3. METHODS

In this study, the researchers employed a case study design due to the distinctiveness of batik motifs, particularly in Java. It concentrated on a specific object, delving deeply into its characteristics and examining it as a case in point.

The Javanese people possess a shared cultural consciousness that traditional batik motifs hold profound philosophies and meanings. Even today, the wider Indonesian population remains acquainted with classic batik motifs and the customs passed down by their ancestors. Case study research involves conducting an extensive examination of a specific social unit. The findings of such research yield comprehensive and detailed descriptions of the selected social unit, typically with a relatively limited number of subjects under investigation.

The case study is a qualitative research method that aims to gain an understanding of an issue or problem by analyzing a specific case (Creswell, 2007). The case can refer to an event, activity, process, program, or even individuals or groups of people.

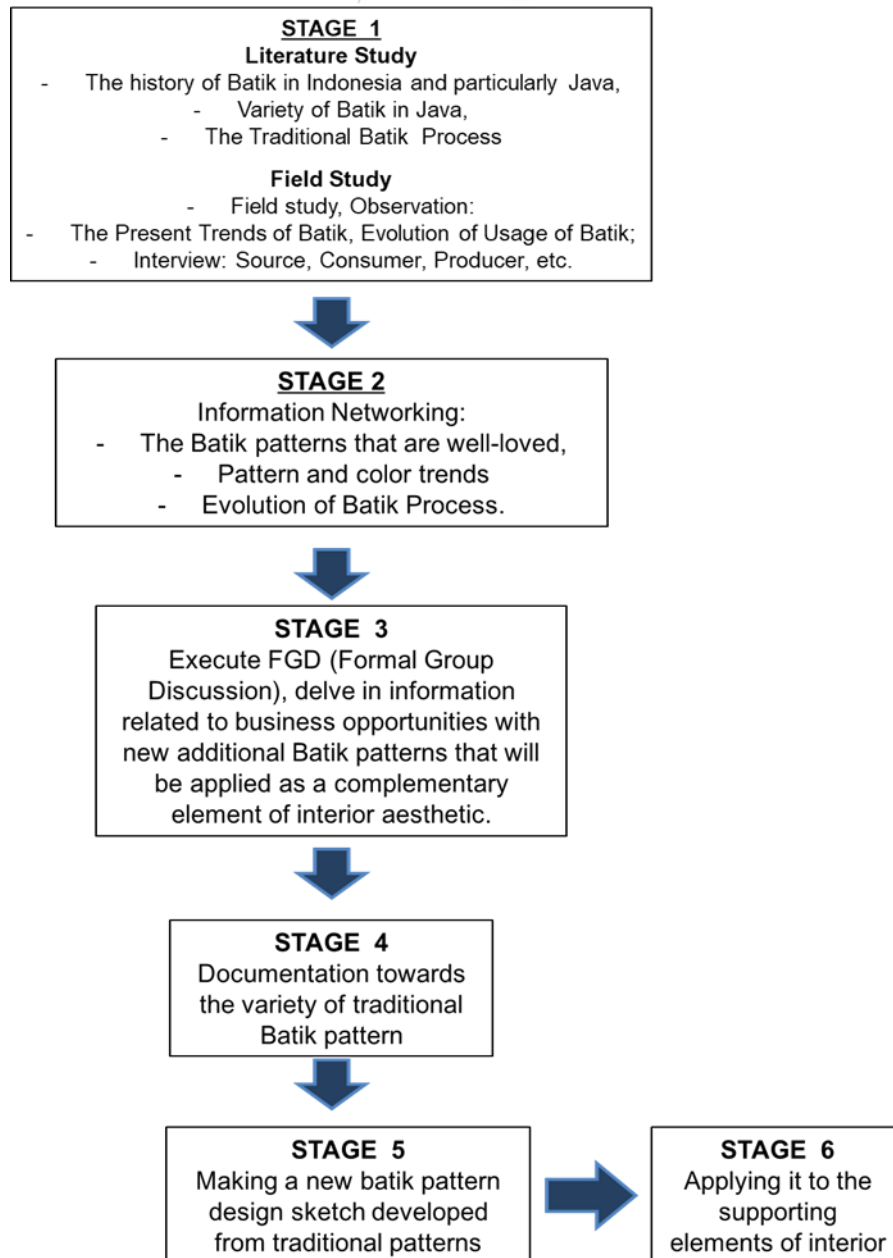


Figure 5. Stages of Research in the Process of Creating New Batik Motifs
(Source: Researchers, 2023).

The purpose of conducting this case study was to provide actionable recommendations and solutions to address specific cases and problems. Data collection involved conducting literature reviews, interviews, and field observations.

4. DISCUSSION

Batik today is no longer limited to the royal family; it is now freely worn by people from all walks of life. Batik has evolved significantly in response to changing times and trends. This evolution is accompanied by a wide range of innovative and creative batik motifs. While the variety of motifs has become more diverse in terms of shape and color, they still adhere to the fundamental rules of the original motifs. Traditional batik motifs have also been adapted and transformed into new and diverse motifs.

Based on the analysis, it can be concluded that the development of batik motifs on various design products is predominantly influenced by traditional batik motifs, such as Parang, Kawung, Truntum, and Suluran motifs.



Figure 6. Evolution of Batik Motifs

(Source: Compiled from various sources, 2023)

New batik motifs are created through the implementation of creative designs that involve modifications in various aspects, such as motif size, arrangement, simplification or complexity, the combination of motifs, colors, and the addition of new or modern elements. This can be observed in the examples below, in which the Parang motif is dominantly used to create new modified motifs. Furthermore, the coloring process and color variations have become increasingly diverse and vibrant.



Figure 7. Modern batik motifs, which are developed from classic batik motifs: Parang, Kawung, Truntum, and Sulur-suluran (plants)
(Source: Compiled from various sources, 2023)

Initially, batik cloth was used as a bottom wear (called jarik), but now its usage has expanded to include hems, party dresses, slayers, and more. In the realm of fashion, batik has gained global recognition and is transformed into stunning modern garments that align with current fashion trends.



Figure 8. Batik in Modern Fashion
(Source: Compiled from various sources, 2023)

In addition to its use as clothing, batik is also utilized in various other products, including lampshades, bags, mask decorations, statues, ornaments for bicycles, tissue holders, and phone cases, and even applied to cars and airplanes.



Figure 9. Batik in Various Design Products
(Source: Compiled from various sources, 2023)

CONCLUSION

The findings of this study revealed several interesting aspects regarding the enhancement of the creative industry through the modernization of traditional batik motifs. One notable aspect is the utilization of batik motifs as aesthetic elements in interior design, encompassing various room elements and furniture. Batik is applied as decorative ornaments on sofa fabrics, tablecloths, pillowcases, lampshades, curtains, floor patterns, partitions, and numerous other items.

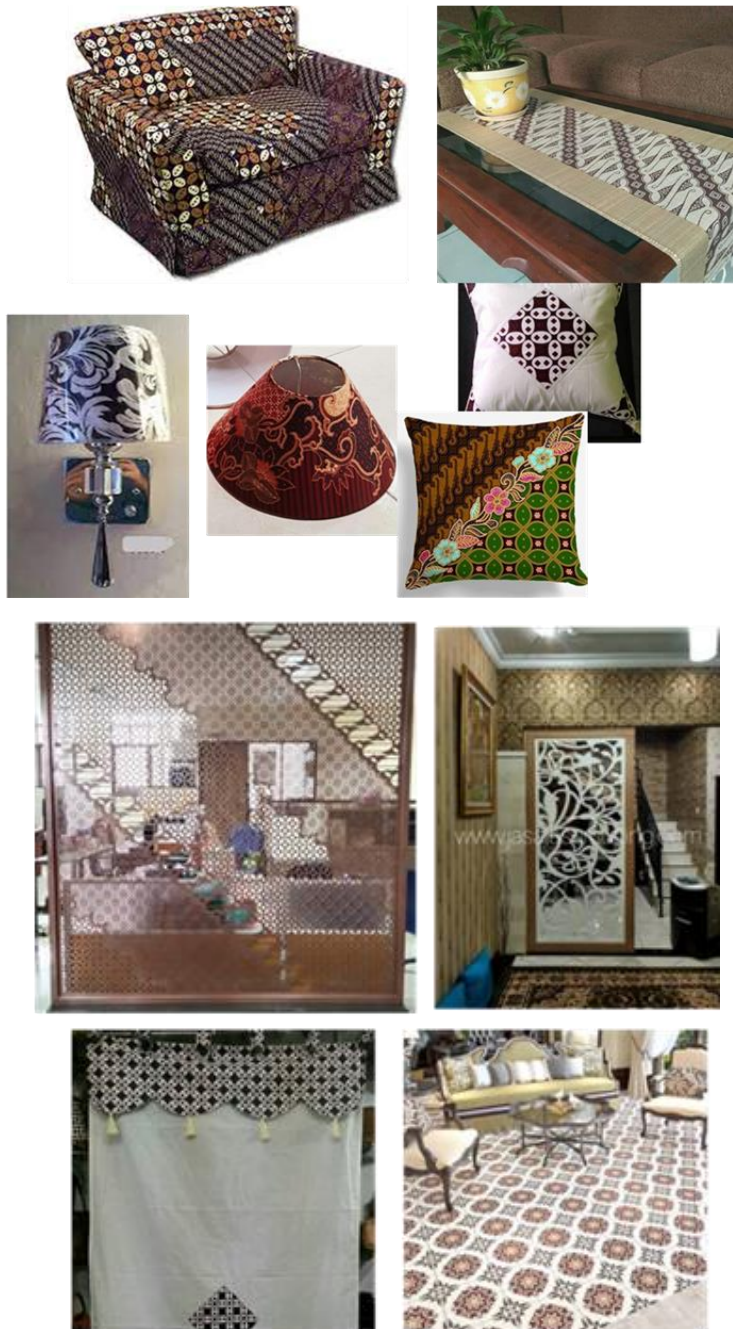


Figure 10. Batik as an Aesthetic Element in Interior Design. It emphasizes the use of batik as an aesthetic element that enhances the interior design, adding a touch of cultural richness and beauty.

(Source: Compiled from various sources, 2023)

Traditional batik motifs have undergone significant modifications, resulting in a wide range of new motifs that can be found in various establishments, such as batik shops, fashion boutiques, furniture stores, and fabric shops. These new motifs are characterized by creative designs that involve variations in motif size, arrangement, complexity, combinations of motifs, colors, and the incorporation of new and modern elements. The growing demand for interior design services is driven by the desire to create aesthetically pleasing spaces in residential areas, hotels, restaurants, offices, and other venues. This trend indicates the promising economic potential of the interior design industry. It is evident through the increasing number of interior design educational institutions, consulting firms, interior companies, and associations of interior designers, all

showcasing their enthusiasm to thrive in both national and international markets. In Indonesia, the creative economy is widely recognized as a key contributor to the national economy, thus it is crucial to focus on its substantial improvement and development. One of the 17 creative economy sub-sectors is interior design.



Figure 11. Application of Batik Motifs in a Classic Javanese Family Room. It illustrates the application of batik motifs in the interior design of a family room, evoking a classic Javanese ambiance.

This includes the utilization of batik-inspired cushions, intricate carvings, and carpets with batik motifs, as well as the presence of royal-style wardrobes and batik blankets.

(Source: Compiled from various sources, 2023)

In the field of interior design, ornaments play a crucial role in enhancing the aesthetics of a design. While they may not serve a functional purpose, they add value to the overall ambiance and beauty of a room. Ornaments can be incorporated into various interior elements, such as walls, ceilings, and floors, as well as supporting elements like sofas, wall decorations, sculptures, lampshades, partitions, and more. The growing demand for interior design services that prioritize aesthetic appeal in residential spaces, hotels, restaurants, offices, and other settings demonstrates the promising economic potential of the field. This is evident through the increasing number of interior design education programs, consulting offices, interior companies, and associations of interior designers, all displaying a strong enthusiasm for development in both the national and international markets.

The process of creating batik motifs in contemporary times involves the use of the form transformation method, while still adhering to the original design principles. The objective is to expand the repertoire of Indonesian batik motifs that align with current trends, industry advancements, and market demands while preserving the traditional visual essence of Indonesian culture. For this reason, the development of new batik motifs opens up business opportunities in the creative industry, particularly in the realm of interior design. It is anticipated that the creation of diverse, modern, and up-to-date batik motifs will inspire designers, artists, textile enthusiasts, and the general public, thereby fostering growth in the creative sector. Indonesia's Ministry of Tourism and Creative Economy acknowledges the need to address several aspects within the interior design sub-sector, such as safeguarding the rights of creative professionals in the domestic market, establishing certification standards, and ensuring copyright protection.



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Architectural Photography of Mughal Historical Buildings Characteristic in India

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ABSTRACT

Mughal Architecture is a distinctive Indo-Islamic architectural style that flourished in northern and central India under the rule of the Mughal Empire from the 16th to the 18th century. Mughal architecture represents a fusion of Indian, Persian, and West Asian architectural elements, resulting in a highly distinctive form of architectural art. The key features of Mughal architecture include large curved domes with intricate floral, geometric, or plant-based ornaments, tall corner towers, the use of white marble or red brick as the primary building materials, arched windows, and the incorporation of water features such as pools or fountains in the terraced courtyards. Some of Mughal architectural style that are the subjects of the author's research are the Taj Mahal, Agra Fort, and Red Fort. The objective of this writing is to analyze the characteristics of Mughal architectural style found in historical buildings in India, visualized through the approach of architectural photography. The research method used is qualitative descriptive with data collection and direct observation on the research object. This research method is conducted in a specific natural setting with the aim of investigating a phenomenon (Fadli : 2021). In this photography project, the author utilizes the elements of architectural photography composition as a reference for capturing images that showcase the characteristics of Mughal architecture. The conclusion of this research is that specific techniques of architectural photography composition such as shadow and highlight, framing, shape and balance can effectively portray the characteristics of Mughal architecture. Apart from technical aspects, the application of architectural photography techniques can convey aesthetics, abstraction, harmony, and implicit dimensions within Mughal architecture.

Keywords : Mughal Architecture, Available Lighting, Architectural Photography, India.

INTRODUCTION

The capital market is one part of the financial market that carries out economic functions and financial functions (Haykal et al., 2018). The capital market in carrying out economic functions runs by allocating funds efficiently from parties who have funds to those who need funds, while their financial function can be indicated by the acquisition of rewards for parties who provide funds in accordance with the characteristics of their chosen investments. Capital markets are one of the options for investors in channeling the funds they have. In this case, information is something that is very important, because an investor in investing funds does by buying stocks traded in the capital market. He must understand and trust that all available and mechanical information in the capital market is trustworthy, as well as the absence of certain parties that can poorly manipulate information against such trading methods.

The success of a company is reflected in the value of the company. For companies that go public, the value of the company can be observed from the stock price. The stock price always reflects the value of the company when the capital market is in an efficient state. An efficient market can always show a stock price that fully reflect the information available. The information can be in the form of the company's annual report, dividend distribution, stock split, and capital market analysts' reports.

According to SFAC No. 1 (FASB1978), financial statements are the main description of financial reporting that serves as a means of communicating financial accounting information to external parties. With regard to profit and loss, SFAC No. 2 (FASB 1980) states that the income statement is very important for its users because it has predictive value. SFAC No. 1 (FASB 1978) which explains that investors, creditors, and other parties often use earnings information and information on other components of earnings to assess the prospects for cash flow from investments or loans they provide. Shares are securities that are traded in the capital market (Warae et al., 2021). When investors decide to buy or sell shares, investors need information, one of which is company profit information. Stock prices change when investors respond to information. This happens because of the surprise profit, which is the difference between the company's actual profit and the profit expected by investors. Investor reaction can be measured by abnormal returns. If the market is efficient, then abnormal returns will appear around the announcement date of earnings information.

Research that can be said to be a pioneer in capital market research is the previous research by Ball and Brown in 1968. The variables used in this research are information on the value of net income which is proxied by forecast error (in this study it is called surprise profit) and market response is assessed with the stock market price which is related to the investment return. This study shows that the market is in a semi-strong condition, so when there is a negative surprise profit (actual profit is less than expected profit), bad news will be formed which is expected to cause the stock return (price) to decrease. Conversely, when there is a positive surprise profit (actual profit is more than expected profit), good news will be formed which causes the stock return (price) to increase.

In 1968, Beaver published his seminal paper on the information content of earnings announcements, establishing that both trading volume and return volatility increase at the time of earnings announcements. Beaver (1998) in Lubis et al (2018) state that the characterizes earnings as having information content about a security's value if its release alters investors' beliefs regarding the attributes they value, such as claims to future dividends. Hence, for earnings to possess information content, the information contained in the release must be incremental to that already contained in alternative or competing information sources. Beaver finds that earnings possess information content as both trading volume and stock price volatility increase in the week surrounding earnings announcements.



Santoso (2020) state that about Miller and Modigliani empirical study provide empirical evidence which states that reported earnings are adjusted to measure error through the use of instrumental variables, adjusted earnings are very useful for predicting that futures earnings are an important explanatory variable in the valuation formula. This relationship is a good condition for earnings to have information content, but the evidence does not rule out that the opposite is true.

Stocks are a means to multiply profits with a multiplier level that is appropriate to the level of risk. An income statement that has been adjusted for measurement errors is very useful in predicting the market value of a stock. Two reasons the income statement does not provide information are: the measurement error is so large that it is better to use other measurement variables and there are other sources of information that are more timely than the income statement which when announced, the information has been confiscated in market prices.

This issue is important to the accounting profession because the results directly reflect the usefulness of accounting activities. One approach was taken to examine this problem to specify an expectation model of how investors relate reported earnings to market prices.

Fama (1970) presents three types of forms of market efficiency levels based on various forms of reflected information, including: (1) weak form, (2) semi-strong form, and (3) strong form. The weak form is a market whose security prices project fully information on the price and volume of the security in the past. The semi-strong form is a market whose security prices fully project all publicly available information, including financial statement data. The strong form is the capital market where the price of securities projects all private information, even inside information that is not published (off-the records).

Unexpected profit (in this study called surprise profit) is the difference between the amount of profit announced by the company and the profit expected by investors. The existence of an surprise profit will affect the company's stock price and ultimately also affect the return of the company's stocks (Prasetyadan Gunawan, 2007).

Efficient Market Theory indicates that the market will react immediately to new information (Ambarwati, 2008). The reaction or market response is generally observed from the increase or decrease in stock prices that occur around the earnings announcement date. If there is a difference between the expected return and the actual return, an abnormal return is formed due to the announcement of the profit.

This study focuses on the relationship between accounting profit information and stock returns. In this study, new information conveyed by earnings information is measured by forecast error, namely the amount of actual profit reduced by the amount of profit expected by investors. To assess market response With these variables, this study finds that when the forecast error is negative, bad news will form and it is predicted to cause the company's stock return to be less than expected or decrease. Vice versa, when the forecast error is positive, good news will be formed and it is predicted that the announcement of earnings information will cause stock returns to increase or be more than predicted.

Several compositions commonly used in architectural photography to showcase the excellence of buildings include compositions related to perspective, such as one-point perspective, two- point perspective, and three-point perspective, as well as leading lines composition. Compositions like detail, framing, and visual elements serve to capture the uniqueness of architectural details and decorative elements. Architectural photography also captures lighting elements, which are an integral part of architecture, through compositions that capture the effects of shadows and highlights emanating from the buildings.

The author's interest in the Mughal architectural style in historic buildings in India lies in the ornaments, building materials, and visual details that carry significant meanings with highly skilled craftsmanship of that era, which can be found in their unique structures and luxurious architectural style. It is these factors that have led the author to undertake research using this theme. The purpose of photographing the characteristics of Mughal architecture with an architectural photography approach and technique are:

1. **Preservation and Documentation:** Mughal architecture represents a significant historical and cultural heritage. By photographing these structures, we can document their intricate details, unique designs, and overall grandeur. These photographs serve as a visual record that helps preserve and document the architecture for future generations. They become valuable resources for research, restoration, and conservation efforts.
2. **Cultural Appreciation and Education:** Mughal architecture is renowned for its beauty, symmetry, and use of intricate ornamentation. By employing architectural photography techniques, such as capturing the play of light and shadow, highlighting specific architectural elements, or emphasizing the overall spatial composition, we can showcase the artistic brilliance and engineering marvels of Mughal structures. These photographs can be used to educate and raise awareness about the cultural significance of Mughal architecture.
3. **Architectural Appreciation and Study:** Architectural photography techniques enable capturing the intricate details, materials, and construction techniques employed in Mughal architecture. By photographing these structures from various angles, close-ups, or using techniques like perspective control, one can emphasize the unique features and craftsmanship of the buildings. Such photographs can be used by architects, historians, and students to study and appreciate the architectural principles, spatial arrangements, and design innovations employed by Mughal architects.
4. **Artistic Expression and Interpretation:** Architectural photography allows for creative interpretation and artistic expression. Through the lens of an architectural photographer, Mughal structures can be captured in a way that highlights their beauty, grandeur, and historical context. The choice of composition, lighting, and framing can convey the photographer's perspective and evoke emotions in viewers, fostering a deeper appreciation for Mughal architecture as a form of art.

RESEARCH METHODS

This research utilizes a qualitative research method based on the concept of going exploring, which involves deep understanding and observation of a subject. The main objective of qualitative research is to make facts easily understandable and enable the generation of new hypotheses (Monique M. Hennink et al., 2020). Descriptive research heavily relies on data collection and field observations. The data collection for this study involved a literature review on the history of the Mughal Empire and Mughal architecture, also literature review on technical, aesthetical characteristic of architectural photography. Field observations were conducted through collecting photography of Mughal architectural objects in India on 2019 by paying attention on architectural composition and technical.

MUGHAL ARCHITECTURE

Early Mughal architecture recognize with the rule of babur who was the first Mughal emperor in India. Babur War victory over Ibrahim Lodi initiate the first Mughal architecture which is a mosque at panipat, followed by Babri mosque. Mughal architecture developed in 16th, 17th and

18th centuries through their empire in medieval India, it is an amalgam of Islamic Persian, Turkish and Indian architecture. Mughal buildings has the same pattern of structure and character including a large bulbous, dooms slender and minarets at the corner, massive hall large gateways and a delicate ornamentation. Mughal architecture possesses several key characteristics that distinguish it from other architectural styles. Here are some main characteristics of Mughal architecture (Erickson & Nath, 1984) :

1. Use of Large Domes: Mughal architecture often showcases large domes that adorn the main buildings. These domes are typically curved and intricately decorated with geometric designs.
2. Use of Marble and Red Sandstone: Mughal architecture employs luxurious materials like white marble and red sandstone to create a majestic and elegant impression in its structures.
3. Intricate Inlay Details: Mughal architecture is often adorned with intricate and beautiful inlay details. These inlays are made of colored stones cut and arranged in such a way as to form artistic patterns.
4. Monumental Gateways: Mughal buildings often feature impressive monumental gateways as their main entrances. These gateways, known as "Darwazas," are adorned with intricate carvings and decorations.
5. Gardens and Open Courtyards: Mughal buildings are often surrounded by beautiful gardens and expansive open courtyards. These gardens are meticulously designed to create visual harmony between the buildings and their surroundings.

Mughal architecture example style can be found in India Afghanistan Bangladesh and Pakistan. Some of famous Mughal architecture are Agra Ford, The Ford City of Fatehpur Sikri and The Bulandarwaza and one of the most famous Mughal monument is The Taj Mahal. Here is some perticular data about Mughal architecture (Asher, 1992) :

1. Agra Ford

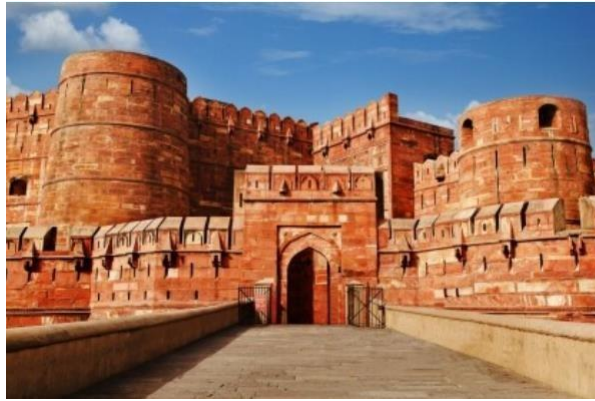
is one of the most Beautiful monuments of Mughal architecture Agra Fort is a UNESCO world heritage site in Agra uttar Pradesh Agra Fort was built by Akbar the Great during 1565 to 1574 the architecture indicates the free adoption of the rajaput planning and construction. It took 4,000 Builders to work on it daily for 8 years for completing it .

The 380,000-square-metre (94-acre) fort has a semicircular plan, its chord lies parallel to the river and its walls are seventy feet high. Double ramparts have massive circular bastions at intervals, with battlements, embrasures, machicolations and string courses. Four gates were provided. Two of the fort's gates are notable: the "Delhi Gate" and the "Lahore Gate." The Lahore Gate is also popularly also known as the "Amar Singh Gate, for Amar Singh Rathore. The monumental Delhi Gate, which faces the city on the western

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side of the fort, is considered the grandest of the four gates and a masterpiece of Akbar's time.

Figure.1 Agra Fort



Source . Mughal Architecture by Preveen Kumar

It was built circa 1568 both to enhance security and as the king's formal gate, and includes features related to both. It is embellished with inlay work in white marble.

2. Great Humayun's Tomb

14 years after the death of Humayun, his widow Hamida Banu Begum built the Humayun's tomb in Delhi. The mausoleum of Humayun is located in the centre of a square surrounded by typical Mughal garden in Fatehpur Sikri. It is said to be first mature example of Mughal architecture. It was the first garden-tomb on the Indian subcontinent, and is located in Nizamuddin East, Delhi, India, close to the Dina-panah Citadel, also known as Purana Qila (Old Fort), that Humayun founded in 1533.



Figure.2 Great Humayun's Tomb

Source . Mughal Architecture by Preveen Kumar

It was also the first structure to use red sandstone at such a scale. The site was chosen on the banks of Yamuna river, due to its proximity to Nizamuddin Dargah, the mausoleum of the celebrated Sufi saint of Delhi, Nizamuddin Auliya, who was much revered by the rulers of Delhi, and whose residence, Chilla Nizamuddin Auliya lies just north-east of the tomb. In later Mughal history, the last Mughal Emperor, Bahadur Shah Zafar took refuge here, during the Indian Rebellion of 1857, along with three princes, and was captured by Captain Hodson before being exiled to Rangoon.



3. Taj Mahal

It was commissioned in 1632 by the Mughal emperor, Shah Jahan (reigned 1628-1658), to house the tomb of his favourite wife, Mumtaz Mahal. The tomb is the centrepiece of a 17-hectare (42-acre) complex, which includes a mosque and a guest house, and is set in formal gardens bounded on three sides by a crenellated wall.

The Taj Mahal was designated as a UNESCO World Heritage Site in 1983 for being "the jewel of Muslim art in India and one of the universally admired masterpieces of the world's heritage: Described by Nobel laureate Rabindranath Tagore as "the tear-drop on the cheek of time; it is regarded by many as the best example of Mughal architecture and a symbol of India's rich history. The Taj Mahal attracts 7-8 million visitors a year. In 2007, it was declared a winner of the New 7 Wonders of the World (2000-2007) initiative.

The Taj Mahal incorporates and expands on design traditions of Persian and earlier Mughal architecture. Specific inspiration came from successful Timurid and Mughal buildings including the Gur-e Amir (the tomb of Timur, progenitor of the Mughal dynasty, in Samarkand), Humayun's Tomb, Itmad-ud-Daulah's Tomb and Shah Jahan's own Jama Masjid in Delhi. While earlier Mughal buildings were primarily constructed of red sandstone, Shah Jahan promoted the use of white marble inlaid with semiprecious stones. Buildings under his patronage reached new levels of refinement. The tomb is the central focus of the entire complex of the Taj Mahal. It is a large, white marble structure standing on a square plinth and consists of a symmetrical building with an iwan (an arch-shaped doorway) topped by a large dome and finial. Like most Mughal tombs, the basic elements are Persian in origin.



Figure.3 Taj Mahal

Source . Mughal Architecture by Preveen Kumar

The base structure is a large multi-chambered cube with chamfered corners forming an unequal eight-sided structure that is approximately 55 metres (180 ft) on each of the four long sides. Each side of the iwan is framed with a huge pishtaq or vaulted archway with two similarly shaped arched balconies stacked on either side. This motif of stacked

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pishtaqs is replicated on the chamfered corner areas, making the design completely symmetrical on all sides of the building. Four minarets frame the tomb, one at each corner of the plinth facing the chamfered corners. The main chamber houses the false sarcophagus of Mumtaz Mahal and Shah Jahan; the actual graves are at a lower level. Inside the ornamentation of the Taj Mahal, almost every corner of the building is filled with aesthetic elements, applied to the floors, walls, ceilings, and exterior parts of the building. The repetition of these ornamental forms creates continuity between the exterior and interior areas of the building. In addition to structural ornaments, the Pachin Kari (floral form) ornamentation also has an applicative nature. The symbol of the flower represents the symbolic representation of the Garden of Eden. Another ornament is the complexity in the design of Jali, which is a geometric form derived from nature. Besides serving as a visual separator, Jali also functions as natural ventilation, commonly used in ancient Indian architecture. The complexity of Jali design symbolizes the endless repetition of geometric forms, indicating the infinite nature of God (Fajar & Isfiaty : 2018).

ARCHITECTURE PHOTOGRAPHY

Photography of architecture is about a complex transcription of a three dimensional world onto a small flat surface. It is also the testimony of the interaction between two closely related, yet somewhat conflicting disciplines, whose interplay has grown entangled in recent times: while architects and historians continue to use photographs as indexical records of artifacts, buildings and sites are increasingly identified with their photographs (Pelizzari & Scrivano, 2011). Initially, architectural photography was intended to document the development of architecture in human life and overall architectural projects. As a project documentation, architectural photography captures the entire process from the initial design stages and construction processes to the completion of the project.

Architectural photography as a documentation of architectural history focuses on documenting architecture from specific times, places, environments, and cultures. The characteristics of the resulting photos are more technically oriented towards architecture, providing accurate information about the project. To support the intended message, individual and contextual photos are sometimes included. The photos can be dramatized to create a certain impression, or they can be captured as they are with a naturalistic or realistic approach.

According to (Adrian Schulz, 2015), there are several forms or purposes of architectural photography, but this writing will focus on two:

1. Documentary architectural photography: Usually architectural photographs can be found in books, magazines, catalogue, and construction documents. In these cases, architectural photography takes the form of multiple images with accompanying explanations, plans, or drawings that are designed to precisely describe a building and its attributes, just like journalism photography.
2. Artistic architectural photography: Artistic architectural photographs can often be found in galleries and exhibitions, usually in the context of a particular theme or artist. Here, architecture serves only as a means to an end, with no particular connection between the message of the image and the message conveyed by the architecture itself. In this case, it is the photographer and not the architect who is the focus of the activity.



A successful architectural photo depends on a well thought out composition and a clear form of expression. If a building is to be the central element of an image, there should be no other major elements that compete for the viewer's attention (Bergera Serrano, 2020). If, however, an image is designed to portray the relationship between two buildings, the relationship has to be unequivocally illustrated to be effective. An artistic architectural photo is judged by the strength of its visual impact and has less to do with the inherent qualities of the building itself. Successful artistic architectural photography grabs the viewer's attention, tells a story, visualizes contradictions, and raises awareness of an architectural environment (Saidi, 2020).

Architectural photography demands an appreciation of the function of a particular building along with the discovery of its sculptural qualities and exploiting these to their best advantage through judgement and control of lighting, camera viewpoint and the selection of a lens of appropriate focal length. Some of the best architectural photography can appear to the untrained eye as deceptively simple, as something anyone could take given a sunny day and a reasonable 35 mm camera. However, such perfect simplicity can usually only be achieved through a positive, informed understanding and interpretation of the building, precise composition and the use of a specialist camera and lens. It also requires profound judgement of natural light through the predetermination of the position of the sun relative to the building for optimum sculptural relief, and perhaps subtle filtration (Harris, 2002).

LIGHTING IN ARCHITECTURAL PHOTOGRAPHY

Lighting is crucial in photography, and the same applies to architectural photography. Lighting is formed by the presence of shadows and highlights. In photography, shadow and highlight refer to two important aspects in lighting arrangement in a photo. Shadow refers to the dark areas in a photo that do not receive direct light. Shadows can provide depth, dimension, and contrast to a photo. In this case, shadows are used to create dramatic effects, highlight shapes, or emphasize specific details in the subject. The placement and lighting of shadows can influence the overall visual composition. Highlights are the bright areas in a photo that received direct light. Highlights are often used to emphasize the main focal area or important elements in the subject. Highlights provide brightness, detail, and striking contrast in a photo. Proper lighting setup can create controlled highlights and help create visually appealing dimensions. In the context of architectural photography to document Mughal architecture, which predominantly consists of monumental historical buildings, natural lighting is typically used. Here are the principles of natural lighting that can be applied to architectural photography according to (Hunter, Fill, Biver, et al : 2013) :

1. **Intensity:** This principle relates to the strength or brightness level of the applied light on the subject. The intensity of lighting can be adjusted by controlling the power of the light source or the distance between the light source and the subject. Adjusting the intensity of lighting affects the contrast, shadows, and overall illumination in the photo.
2. **Quality:** Lighting quality refers to how soft or hard the light falls on the subject. Soft lighting produces a smooth gradation transition between highlights and shadows, while hard lighting creates sharp and distinct transitions. This principle is related to the use of diffusers or light modifiers to alter the quality of lighting.
3. **Direction:** This principle pertains to the direction from which the light falls on the

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subject. The direction of lighting can affect the appearance of shadows, texture, and dimension of the subject. Choosing the appropriate direction of lighting can shape and enhance the desired details of the subject.

4. **Spread:** This principle relates to how far the light spreads around the subject. Light spread can be controlled using reflective devices, light diffusers, or light blockers. This principle affects the distribution of lighting on the subject and the background.
5. **Ratio:** The principle of ratio refers to the contrast between bright and dark areas in the photo. Adjusting the ratio between highlights and shadows can create dramatic effects or control the balance of lighting in the composition. This principle affects the contrast and overall appearance of the photo.
6. **Color:** The color principle relates to the color temperature of the lighting used. Color temperature can create a certain atmosphere and influence the mood of the photo. Proper use of color balancing or lighting filters can achieve the desired effects.

ARCHITECTURE AS PHOTOGRAPHIC SUBJECT

The central element of every architectural photo is the building. The sheer size of buildings makes them very different from almost every other type of photographic subject. An architectural photographer can not only photograph the subject from outside, but can also step into the subject and capture images of its inner life. Additionally, a building is commonly connected to its environment, which means that the photographer always has to make the effort to visit the subject.

Typically, all elements surrounding a building play a secondary role in the composition of an architectural photograph, resulting in an image with an unequivocal message. The significance of each individual building in images that contain more than one major structure can vary. Sometimes, a single building will dominate due to its size or central position, while at other times, the arrangement of multiple structures can give each a similar weight within the overall composition. This is often the case when several buildings form a homogenous pattern or are made of similar materials. Whatever the physical arrangement, the building remains the central element of the photo's message (Cajide, 2016).

Schulz in *Architectural Photography* book highlighted, these are few elements to be considered in terms of making a good architectural photography in general :

1. analyzing the situation and its specific characteristics around the object.
2. Usually there is certain side of the building is best suited to being photographed. It is where the shadows or backlight positioned, or other structures composing a design element.
3. characterize the surroundings, we can try to analyze specific or interesting physical structures feature in building such as reflection.
4. Find the camera angle best emphasizes the building's strengths or the one that will deliver great shots of the building.
5. The surrounding elements of the building's surroundings that emphasized the building.

COMPOSITION

Composing a great photograph is not a task that can be accomplished through a simple formula. While placing the subject in the center of the frame can create a balanced composition, it often results in a static looking image. This type of composition is commonly employed by documentary architectural photographers, especially when aiming to capture a precisely



symmetrical view of a building. However, in architectural photography, as in other genres, photographers frequently opt for non-central compositions to create more visually interesting images.

Two commonly used rules of thumb in photography are the Golden Ratio and the Rule of Thirds. These guidelines aid in achieving successful image composition by producing balanced yet captivating images. Nevertheless, some of the most impressive photographs are those that deliberately ignore the conventional rules of photography, aesthetics, and artistic proportions (Paramita, 2016). Such extreme images require meticulous composition to be effective, and the line between a sophisticated composition and a failed one can be quite subtle.

Architectural photos depict physically large subjects that occupy a significant portion of the available space within the frame. It is essential to avoid disturbing the visual balance of an image by placing excessive emphasis on a single part of the frame. In some cases, it is not necessary for an entire building to be visible in the photograph. Less relevant parts of a structure can be intentionally omitted. Even a partially visible facade can provide sufficient information for viewers to interpret the building correctly. Architectural photography is rich in detail and perspective composition to create a sense of three-dimensionality within a two-dimensional medium. Detail elements can be seen in various technical aspects of the building, decorations, and building materials. Detail photographs are typically created with high precision and sharpness. (Fleyora Bunga Sau et al., 2021). The significance of utilizing space within a composition is frequently underestimated. Space is an integral aspect of architectural structures, and a photograph of a building should allow room for the subject to breathe. If an architectural photo is tightly cropped, it can create a cramped and unfavorable impression. Therefore, it is advisable to perceive emptiness as unconfined space and actively incorporate it into your compositions. These are the composition. The following are compositions that applicable in architectural photography to showcase or highlight specific characteristics of a building, structure, feature, or interesting elements of the building, as well as surrounding elements that support the building and effectively emphasize its overall appearance.

1. Perspective

Taking photographs means capturing a three dimensional space and converting it to two dimensions. The most important physical principle governing this transformation is the principle of perspective, which represents the effect of a subject's space and depth in a two-dimensional plane. Perspective is fundamentally the projection of space onto a flat surface. Photographic images follow the rules of central projection, also called vanishing point projection, preserving the natural perception to which the human eye is accustomed. The perspective effect in a photo is determined by the position the photo is taken from and the direction the camera is pointing (Adrian Schulz, 2015).

2. Selective Framing

A photographer can use tight or selective framing to emphasize particular details or characteristics of a building. This eliminates subsidiary information regarding the size and overall shape of a building and draws the viewer's attention to specific architectural details. This way, the material nature of a facade and the precise construction of particular features are much easier to discern, while the overall structure of the building takes on a secondary role (Adrian Schulz, 2015).

3. Shooting Upwards

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Human beings generally perceive their surroundings on a horizontal plane by looking forward, and we rarely allow the horizon to leave our field of view. Looking upward produces an unusual, unfamiliar view of a building that lacks context and confuses our perception of spatial relations. This type of view, especially in interior situations, can convince the viewer that a wall is a ceiling or vice versa. The sky suddenly becomes a large, uniform background that is perfect for setting off the features of the subject. A vertical view also allows you to rotate the frame in any direction without breaking any fundamental rules of composition (Adrian Schulz, 2015).

4. Image Sequences

Another way to photograph buildings creatively is to shoot a sequence that gives multiple images a mutual context. My example shows a sequence with a "doors" theme. As long as the theme is clearly recognizable, materials, colors, lighting, and exposure can vary widely from image to image. Selecting the right images to display together is an integral part of shooting a successful sequence—one of the more artistic approaches to architectural photography (Adrian Schulz, 2015).

5. Extreme Use of Reflections

Reflections are particularly effective if they produce a second, separate visual layer within an image. Again, clever composition in combination with reflective materials can produce images with a deeper message or a symbolic feel for example, by combining elements of old and new, light and heavy, or transparent and opaque. Reflections can be so abstract that the viewer no longer comprehends what he/she is seeing. Extreme compositions created using layering or sequential techniques can be used to create crazy mixtures of shapes, textures, and details. In such cases, the architecture itself becomes a mere background on which you can project your own personal message (Adrian Schulz, 2015).

6. Detail

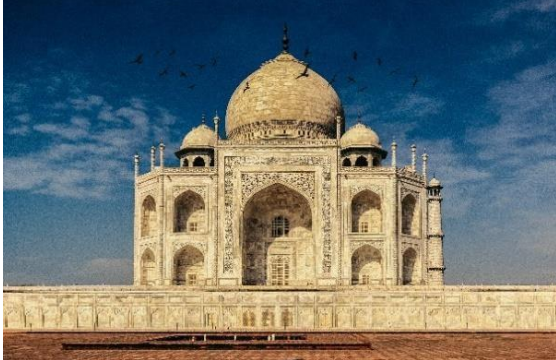
Detail composition is one aspect of architectural photography that aims to focus the capture on specific parts that are considered exceptional. Generally, architectural detail photography captures prominent features such as unique shapes of buildings or other intriguing forms. Architectural photography is rich in detail, which can be observed in various technical aspects of the building, decorations, ornaments, and materials. Detail photographs are typically created with a high level of precision and sharpness. As an art form, architectural detail has great potential to be transformed into abstract works. Architectural detail photography captures a specific part of a building that appears visually appealing, exceptional, or possesses high aesthetic value, often conveying a message intended by the architect (Fleyora Bunga Sau et al., 2021).

7. Visual Element / Repetition

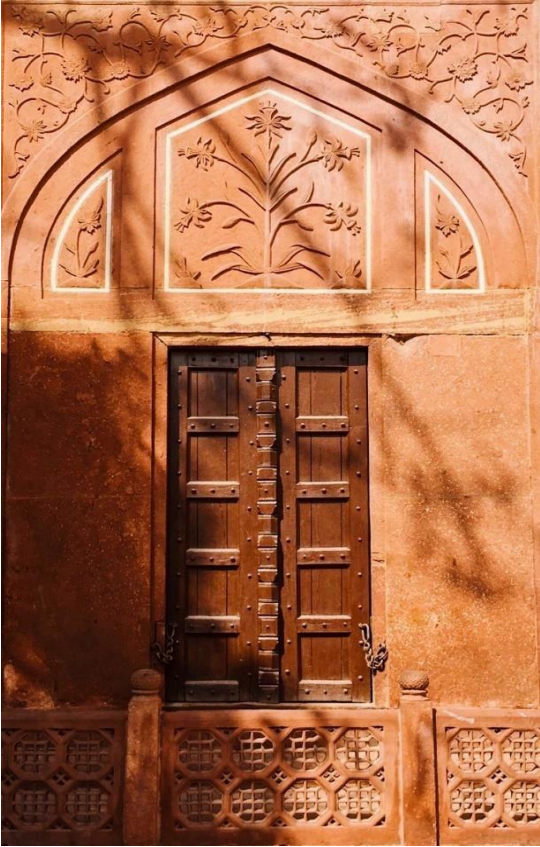
Repetition composition in photography is a compositional technique where the same element or pattern is repeated regularly within the frame of the photo. This creates a strong and captivating visual effect that directs the viewer's attention to the repeated pattern, shape, or object. The basic principle behind repetition composition is to repeat the same element in a regular and consistent manner within the photo. These elements can include lines, shapes, colors, textures, or other objects that share visual similarity. By introducing repetition, photographers create visual unity and rhythm. The purpose

of repetition composition is to create an appealing visual balance, rhythm, and coherence. It can result in a harmonious, captivating photo that leaves a strong impression on the viewer. Repetition composition can also evoke feelings of order, stability, or movement depending on how the repeated elements are arranged (Briot, 2010).

DISCUSSION & RESULT

Photo Object	Description and Composition
 <p data-bbox="411 831 679 891">Figure.4 Taj Mahal Source . Ferenanda 2019</p>	<ul style="list-style-type: none"> <li data-bbox="823 472 1406 768">• Description: The following photo is an architectural photograph of the Taj Mahal taken with a horizontal framing and a wide-angle perspective, showcasing the vastness of the Taj Mahal. The dominant elements in this photo are the vertical lines, in accordance with the characteristic emphasis on vertical lines in architectural photography. This may be achieved by using a large aperture to create a sharper image with a wide depth of field. Such photography techniques are commonly used in landscape photography as well. <li data-bbox="823 779 1406 1048">• Characteristic: The characteristics of Mughal architecture can easily be identified through the materials used, such as white marble, the round dome on top, and the symmetrical arrangement of Persian-inspired balconies with curved window decorations reminiscent of the Middle East. The main structure of the Taj Mahal, made of white marble with intricate carved decorations, remains sharp and detailed despite being taken from a considerable distance. <li data-bbox="823 1059 1406 1171">• Intensity (contrast): The level of light intensity in this photo is excellent, with even lighting on every architectural element. There are harsh shadows on some facade areas that are covered in shade. <li data-bbox="823 1182 1406 1294">• Quality (sharpness, gradation): The photography was done at an appropriate time to capture the image, resulting in high-quality and well-balanced lighting that highlights the architectural features of the building. <li data-bbox="823 1305 1406 1395">• Direction (dimension, texture): The texture of the building is clearly visible, allowing us to see the intricate carvings on the entire

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	<p>structure. This is due to the lighting angle coming from the left.</p> <ul style="list-style-type: none">• Spread: The use of natural lighting has resulted in even illumination throughout the building.• Color (feel): The high-key color tones depict a bright atmosphere and add charisma to the building.• Composition: The horizontal lines, which form the architectural foundation of the Taj Mahal, are positioned along the lines that create a composition following the rule of thirds. The centered composition is often employed to direct the viewer's attention to the desired object. As an aesthetic element in the photo, the birds flying above the dome of the Taj Mahal add a distinctive touch compared to typical Taj Mahal photos. In photographic terms, this is known as the "decisive moment."
 <p>Figure.5 Agra Fort Source . Ferenanda 2019</p>	<ul style="list-style-type: none">• Description: Here is an example of a detailed photograph of the architecture of Agra Fort. The composition showcases decorative ornamentation in the form of flowers and geometric shapes, which are characteristic of Mughal architecture. The flower elements can be seen at the top of the doorway, with large flower motifs framed by arched domes. These large flower elements often symbolize grandeur. At the bottom of the doorway, there are contrasting geometric elements. Hexagonal shapes with openings in the middle are typically used in windows for ventilation. Geometric elements often replicate natural forms. The contrast between the decorative elements is effectively captured by the photographer. The photographer pays attention to the surrounding environment, utilizing it to create a more aesthetic photo. The play of shadows on the wall caused by the branches is an aesthetic element that can be obtained through the photographer's keen eye for utilizing the surrounding environment.

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	<ul style="list-style-type: none">• Characteristic: In the photo, we can see the building material of Agra Fort, which is made of red sandstone, combined with a wooden door that matches the color of the geometric element in the middle of the door.• Intensity (contrast): In the image, we can also see harsh shadows cast by tree branches near the building, creating a more dramatic and dynamic photo, adding dimension to the image.• Quality (sharpness, gradation): The contrasting gradation of lighting makes the simple and detailed objects, such as the decorative elements, appear more aesthetic and dramatic.• Direction (dimension, texture): The lighting comes from the front left side, and the sidelight aims to showcase the details or textures present in the objects. In this photo, we can clearly see the details of the decorative elements that characterize Mughal architecture.• Spread: The light distribution is uneven, although the visual area is not too large. However, the strong contrast in the photo creates a strong sense of dimension, making the photo not appear flat.• Color (feel): The strong lighting atmosphere also reflects the weather characteristics at the shooting location, so the photographer must be more careful in selecting the time for capturing the image.• Composition: The composition used focuses on details to showcase specific decorative elements or motifs of a building.
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Figure.6 Hawa Mahal
Source . Ferenanda 2019

Description: The following photograph showcases the Mughal architecture of Hawa Mahal, which was the palace for the queen in the kingdom of Jaipur.

- **Characteristic:** The structure of Hawa Mahal is built to resemble a beehive. Stacked windows with arched window elements, which are characteristic of Mughal architecture as seen before in Taj Mahal and Agra Fort, can still be observed. The repeated geometric decorative elements on the windows, which serve as ventilation, are also evident in the Hawa Mahal building. Hawa Mahal has 11 floors, and in the past, constructing an 11-floor building was no easy feat. The building material, made of red sandstone, is clearly visible.
- **Intensity (contrast):** The lighting intensity is very strong, with no visible shadow or highlight gradation in the photo. It is likely that the photo was taken around midday, as the shadows are almost imperceptible.
- **Spread:** The light distribution is even due to the use of natural lighting.
- **Color (feel):** The contrast created by the blue sky neutralizes the monotonous effect caused by the angle of the photograph. Although a repetitive composition is typically used to create rhythm in an image.
- **Composition:** From a technical photography standpoint, the composition used for this photo is a medium close-up diagonal line, taken from a low angle commonly known as a frog-eye view. This technique is employed to showcase the intricacy of the architectural details, which consist of small repetitive elements that require patience, precision, and a high level of accuracy. The frog-eye view angle is used to create a majestic impression and to demonstrate that Hawa Mahal is a very tall structure.

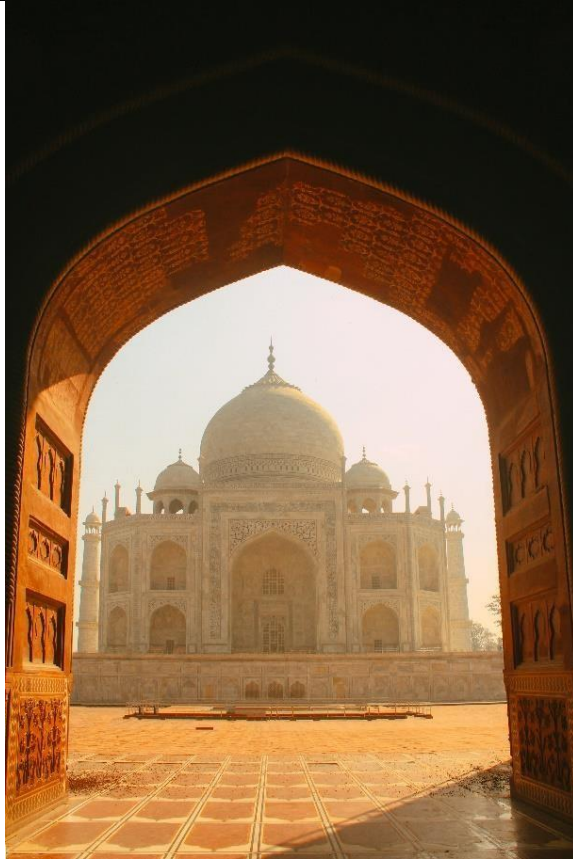


Figure.7 Great Gate
Source . Ferenanda 2019

- Description: The following is a photograph of Rauza Gate, a magnificent architectural structure. The gate features tall arches adorned with artistic decorations and intricate carvings, showcasing the characteristic Mughal architecture. It also includes large doors that provide access to the Taj Mahal complex. The courtyard of the Taj Mahal is paved with Agra Red Sandstone or Lal Pahadi, a reddish-brown stone that gives a beautiful appearance to the Taj Mahal's grounds.


- Characteristic: The courtyard floor of the Taj Mahal is well-designed and exhibits symmetric geometric patterns. These patterns incorporate intricate designs of flowers, leaves, and geometric shapes. They are formed using carefully arranged white stones on the red sandstone floor. The floor patterns are an example of the elaborate and delicate Mughal art of carving. They demonstrate the skill and high attention to detail that are characteristic of Mughal architecture.

- Intensity (contrast): There is a stark contrast in lighting between the illumination on Rauza Gate and the main structure of the Taj Mahal, Shah Jahan. The difference between the bright (highlight) and dark (shadow) areas in the photo can create a dramatic contrast. This contrast can provide sharpness, emphasize details, and enhance the visual sharpness of the subject. The use of shadows and highlights can also create mood and atmosphere in the photo. Deep shadows or strong highlights can evoke a dramatic, mysterious, or even romantic impression, depending on the context and lighting setup used.

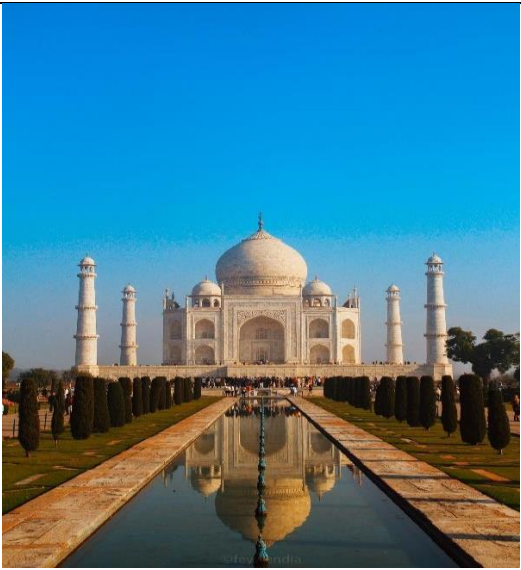
- Quality (sharpness, gradation): The soft gradation of lighting creates a romantic effect in the photo.

- Direction (dimension, texture): The lighting comes from the right side, illuminating the main structure of the Taj Mahal in the background with soft lighting, creating a

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	<p>contrasting effect with the foreground objects. This makes the photo appear very dynamic.</p> <ul style="list-style-type: none"> • Spread: The uneven light distribution in the foreground of the photo brings the viewer into the atmosphere of entering the courtyard of the Taj Mahal. • Composition: The photograph also exhibits a framing composition. The purpose of framing composition is to direct the viewer's gaze to the main subject and focus on the highlighted elements in the photo. By using surrounding elements such as objects, structures, or patterns as frames, photographers can create a visual framework that helps guide the viewer's attention into the photo. Framing composition can create visual depth in the photo. By incorporating framing elements in front of the subject, photographers add additional layers to the photo that provide a sense of depth and dimension.
 <p data-bbox="395 1003 694 1064">Figure.8 Humayun's Tomb Source . Ferenanda 2019</p>	<p>Description: In the following photo, we see a glimpse of the Mughal architectural heritage, Humayun's Tomb, from a different perspective. Usually, we would see photos of Humayun's Tomb from the front, capturing the beautiful reflection of the building in the "Sundarwala Burj" pool. However, in this photo, we get to see the backside of Humayun's Tomb, with repetitive curved</p> <p>pillars that are characteristic of Mughal architecture.</p> <ul style="list-style-type: none"> • Characteristic: Humayun's Tomb has a main structure made of red stone combined with decorative elements of white marble. This structure provides a beautiful and striking contrast. Mughal architectural design, including in Humayun's Tomb, often considers strong visual perspectives. Buildings and architectural elements are carefully placed to create illusions of depth and appealing spaces.
	<ul style="list-style-type: none"> • Intensity (contrast): The photo exhibits a moderate contrast in lighting, indicating that the weather conditions may not have been optimal during the time of capture. • Composition: The composition of the photo exhibits a two-point perspective, also known as two-point perspective, which is a technique in art and photography used to create an illusion of depth and space in an image. In this composition, the converging lines of objects or buildings in the picture converge to two vanishing points located outside the image. • This technique involves the use of two vanishing points placed on the horizon or eye level. Objects above or below the eye level tend to converge to one

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	<p>vanishing point, while objects below or above the eye level tend to converge to a different vanishing point. By using this perspective, the image creates a three-dimensional illusion and provides a stronger sense of depth.</p>
 <p>Figure.9 Charbagh Source . Ferenanda 2019</p>	<ul style="list-style-type: none"> • Description: The following photo depicts the long pool in front of the Taj Mahal, known as "Charbagh." The long pool is an important element in Mughal garden design, representing the concept of paradise on earth. This pool creates a beautiful and symmetrical reflection, reflecting the beauty and harmony of the Taj Mahal. The long pool provides a stunning visual impression and enhances the overall beauty of the Taj Mahal complex and garden. It functions as a central pathway dividing the garden into two symmetrical parts. • Characteristic: Mughal garden designs often include symmetrically placed pools in the middle of the garden or around the main structure. • Intensity (contrast): The contrasting colors between the blue sky and the white marble as the building material make this photo look very beautiful.
	<ul style="list-style-type: none"> • Quality (sharpness, gradation): The gradation of lighting from the blue sky to the white color at the horizon boundary of the photo creates a beautiful illumination, forming a rhythm of light in the photo. • Composition: Visually, we can observe strong horizontal lines that form the rule of thirds composition. There is also a composition of reflections that can create visual balance within the composition. By having the reflection of the subject or other elements in water or other reflective surfaces, the image can have an appealing symmetrical appearance. This helps create harmony and balance in the composition. Calm water surfaces or other reflective surfaces can create clear and contrasting reflections, resulting in an aesthetically pleasing view.

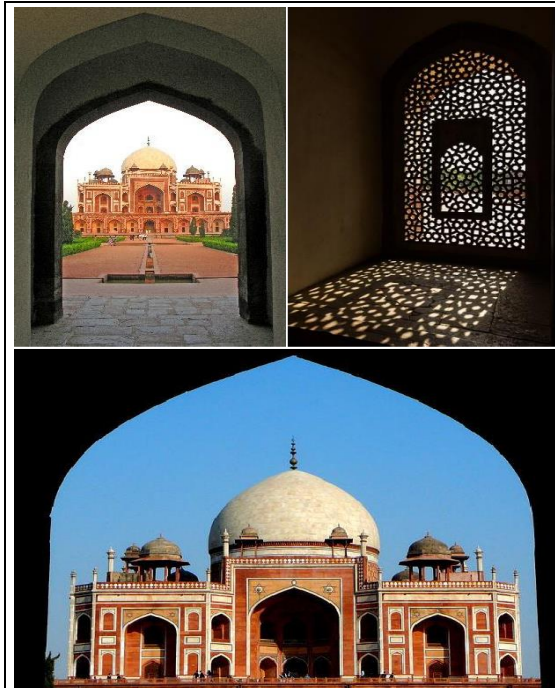


Figure.10 Humayun's Tomb Sequence
Source . iStock.com

- **Characteristic** Here is a photo of the Humayun Tomb's architecture. It is a prime example of Mughal architecture, characterized by its red sandstone structure, Persian-inspired garden layout, and intricate decorative details. Mughal architecture often incorporates complex geometric patterns in its ornaments, which can be found in the form of mosaics, carvings, or panels depicting patterns such as squares, triangles, stars, or other geometric motifs. The gateway in front of Humayun's Tomb may have intricate geometric ornaments on the top or around the archway. The window ornaments surrounding Humayun's Tomb likely follow the same characteristics as the gateway and other Mughal architectural ornaments. They may feature geometric patterns, delicate carvings, floral and plant motifs, as well as beautiful calligraphy.

- **Composition** : Image sequence in architectural photography refers to a series of sequentially taken images capturing a building or structure from various perspectives or under different conditions. With image sequence, photographers can pay attention to small details of the building

or structure that may be overlooked in a single image. By combining multiple images in a sequence, photographers can highlight interesting architectural elements such as carvings, ornaments, textures, or intricate patterns. This can enhance understanding and appreciation of the design and beauty of the building. In this photo, we can also observe a composition framing that is turned into an image sequence, which can bring the viewer into the Humayun Tomb's interior in a tangible way through the two-dimensional artwork.

CONCLUSION

The conclusion of this paper highlights the most recognizable characteristics for identifying Mughal architecture, namely the use of marble and red stone that create a striking and beautiful appearance. It gives an impression of luxury and elegance to Mughal buildings.

Mughal architecture is also known for its richness in ornamentation. Intricate ornaments such as carvings, mosaics, calligraphy, and geometric patterns are widely used on building facades, gateways, domes, and mihrabs. Mughal architecture is often accompanied by vast and beautiful gardens that provide visual beauty to the Mughal architectural complexes.

Photographing Mughal architecture using architectural photography techniques is important for preservation, documentation, cultural appreciation, education, tourism promotion, architectural study, and artistic expression. It helps preserve the legacy of Mughal architecture, promote cultural exchange, and create a visual record of these magnificent structures for generations to come. To make an architectural photo effective, there are several things to be noticed which is analyzing the situation and its specific characteristics around the object, deep observation on the object and the surroundings. The application or selection of photography composition with an architectural photography approach needs to be carefully considered so that the chosen

composition can highlight the characteristics, uniqueness, and special features of Mughal architecture.

The composition such as perspective, framing, shooting upward, capturing details, and visual elements, can be used to highlight and appreciate the beauty of the distinctive ornaments and details in Mughal architecture and for capturing the characteristics of Mughal architecture, which has many details and ornaments.

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CHAPTER 8

FACTORS INFLUENCING PURCHASING DECISIONS: PRICE, QUALITY AND BRAND IMAGE

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ABSTRACT

It is very important to mention past research or comparable research when compiling scientific studies or publications. By providing further evidence, previous research or related research adds to the strengthening of theories and phenomena of linkages or effects between variables. This research looks at factors that influence purchasing decisions, such as price, quality, and brand image, as well as marketing management research and practices. The purpose of this article is to develop hypotheses regarding the relationship between variables so that further research can be carried out in this area. The following is the conclusion of the literature review of this article: 1) Price affects purchasing decisions; 2) Quality influences purchasing decisions; 3) Brand image influences purchasing decisions.

Keywords : Factors Influencing Purchasing Decisions, Price, Quality, Brand Image

INTRODUCTION

Background of the problem.

When a business has a problem with globalization, they have to compete with other businesses both at home and around the world. In general, this is one of the most important things an organization does to keep itself alive and growing. Marketing efforts make a profit. The success or failure of a company's marketing campaign determines its market position. In other words, the company has the potential to be ahead of other businesses in the same field, especially effective corporate marketing.

Consumer Purchase Decision Product purchases are a series of steps that are influenced by customer perceptions of company stimulus as well as other considerations (product quality, price, and brand image). The process of consumer evaluation of marketing stimuli or marketing stimuli is interrelated to the point that affects the choice of product selection. Product price, product quality, and brand image are all elements that influence a client's purchasing decision. Allows businesses to provide high-quality goods and a great brand image to consumers, resulting in more favorable purchasing decisions.

Over time, more and more products and services appear that provide a variety of unique features. This adds to the complexity of the factors that the buyer must evaluate when purchasing goods. Consumers usually consider their buying interest by referring to several things including product prices, product quality, and brand image or *brand image* of the product.

This phenomenon makes me as a student interested in conducting a literature study that aims to find concrete data from the above phenomenon. Then we will connect the data variable with other variables to see the relationship between variables.

Problem Statement

Based on the context, the questions to be discussed can be formulated to establish hypotheses for further research, namely:

1. Does price influence purchasing decisions?
2. Does quality influence purchasing decisions?
3. Does *brand image* affect purchasing decisions?

Research Objectives

The purpose of writing this marketing management literature review article is to establish hypotheses that can be used for further research.

THEORETICAL STUDIES

Purchasing Decision

Consumers make purchasing decisions at a point in the decision-making process when they are ready to buy something. Every purchase has a series of actions that must be performed before the transaction can be completed, including what can and cannot be done (Kotler, 2008: 337).

Purchasing decision is an individual's attitude towards acquiring or utilizing a product in the form of a commodity or service that he feels will please him, as well as his willingness to assume responsibility for the risks he will bear. Understanding the psychological and personal factors that influence customer behavior is critical as it influences their purchasing decisions and helps remind brands of their services, products, and business (Afroz, 2013).

Consumers make purchasing decisions during the decision-making phase of the process when they are about to buy something. A technique known as the pre-transaction process precedes any intended purchase (Kotler, 2008:337).

The purchasing decision process highlights several processes that must be completed when a customer purchases goods from a company. This behavior is a different habit that customers have before, after, and during the use of a product. People will be inspired to buy goods, services, and organizations as a result of this unique habit (Khandelwal et al., 2014).

Purchasing decisions are the last step in a series of decision-making processes that lead customers to buy the products or services they want (Kotler, 2012; in Siswanti and Prihatini, 2020).

Price

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"To get goods or services from sellers, customers or buyers must pay a certain amount of money to get them," writes Basu Swastha (2003: 241). When determining selling prices, changing market expenses, revenues, competition, and demand must all be taken into account, as well as the purchasing capacity of target customers.

Pricing is the only aspect of a company's marketing mix that generates revenue or money, according to Fandy Tjiptono (2008: 151).

According to Kotler and Keller (2009: 67), as translated by Bob Sabran, Price is one part of the marketing mix that makes money; The other part costs money. Price is the easiest aspect to adjust in a marketing plan, but product quality, distribution methods, and even communication take time and effort.

"Price is the amount of money required to acquire a mix of goods and services (plus some, if possible)," writes Swastha (2010: 147).

Quality

Quality, according to Dessler (2003: 261), is defined as a way to showcase their products and services and how well they can meet the needs of the person looking for them.

Product quality refers to how well a product can do its job. This can include things like how long it lasts, how accurate it is, how easy it is to use and maintain, and other important features (Kotler and Armstrong, 2008).

Quality is our strongest guarantee of customer loyalty, our most effective defense against foreign competition, and the only way to ensure that our company grows and profitably (Kotler, 2009: 143).

Product quality is an advantageous trait that evaluates product durability, reliability, accuracy, simplicity of operation, and ease of maintenance, among other qualities, according to Kotler and Keller (2016:61).

Brand Image

Brand image is a collection of beliefs, ideas, and impressions of a person about a particular brand, according to Kotler (2002: p. 215).

Brand Image is of course about product descriptions and consumer trust in the brand. Customers consider brand image as the most important factor in determining how a product is viewed. Of course, the image of a brand for some individuals is the same as for others. To succeed in an increasingly competitive industrial climate, a company must be more inventive and build a competitive advantage in product packaging, the product itself, distribution, and its product image in the market. If buyers' reactions to things today are highly competitive, product brands will inevitably connect with different responses in their minds (Tjiptono, 2005).

Brand Image affects brand trust. This shows that how people perceive a brand affects the formation of consumer trust. Consumer perceptions of quality and service are reflected in a business's brand image, and a good company may be able to persuade them (Cindy 2014).

Brand Image is It all comes down to brand identity. Visual language and identity, brand marketing tactics, and brand-connected employee behavior systems are four important components of brand image (Świtała et al., 2018).

PREVIOUS RESEARCH

Table 1: Relevant previous research

No	Author (year)	Previous Research Results	Similarities with this article	Differences with this article
1	Riyono and Gigih (2016)	Price has a huge impact on the judgment made about what to buy.	Price affects the choice to buy something.	Purchasing decisions are influenced by a variety of factors, including price, quality, and promotional offers.
2	Cindy, Kalangi dan Lucky (2021)	Price has a great influence on purchasing decisions, both positively and negatively.	Price has a huge impact on the judgment made about what to buy.	Price has a huge impact on the judgment made about what to buy.
3	Francisca dan Elijah (2021)	Product quality has a positive and significant influence on the choice made about which product to buy.	Product quality impacts purchasing decisions	The choice to buy a product is influenced by the quality of the product.
4	Rosyta (2021)	A positive and small influence on purchasing decisions is given by the quality of the product.	The choice to buy a product is influenced by the quality of that product.	A beneficial and considerable influence on brand confidence as well as purchasing decisions is given by product quality.
5	Fitri and Musthofa (2020)	<i>A favorable brand image</i> has a beneficial influence on consumer purchasing decisions.	<i>Perception of a brand has an influence on purchasing decisions.</i>	<i>Brand image</i> impacts purchasing decisions.
6	Pantri and Septi (2020)	<i>Brand image</i> has a partial positive impact on purchasing decisions.	<i>Brand Image</i> has an impact on Purchasing Decisions.	People make purchasing decisions based on the quality of the product and how well the company is known.
7	Dungo and the Great (2017)	<i>Brand image</i> positively impacts purchasing decisions.	The image of a company has an impact on purchasing decisions.	Product Quality and <i>Brand Image</i> influence purchasing decisions.
8	Janah and Malichah (2013)	A favorable brand image has a beneficial influence on consumer purchasing decisions.	<i>Brand image</i> influences purchasing decisions.	The image of a company has an impact on purchasing decisions.

METODOLOGY OF WRITING

In the development of scientific work, qualitative techniques are used, as well as library research. Examine hypothetical relationships or effects, as well as variables, between library and book variables, as well as online journals from Mendeley, Google Scholar, and other online media sources.

The literature review should conform to methodological assumptions when conducting qualitative research. This means that it must be used inductively to avoid the researcher directing directly to the problem in the first place. One of the most convincing motivations for conducting qualitative research is its exploratory nature. (Ali and Limakrisna, 2013).

DISCUSSION

Based on relevant theoretical studies and previous research, the discussion of *this literature review* article is:

1. The Effect of Price on Purchasing Decisions.

Price has a statistically significant effect on purchasing decisions which is also consistent with substantial numbers, so that the price dimension of rejected purchase decision components does not have a statistically significant effect. Some price features have a big impact on whether people buy something (Dungo and Agung, 2017).

According to statistics, price has a statistically positive and significant influence on whether people buy something or not. Price has a huge impact on how people decide to buy something (Riyono and Gigih, 2016).

2. The Effect of Quality on Purchasing Decisions.

Based on Zara's experience, it can be concluded that product quality has a positive and significant influence from a consumer perspective. When it comes to buying trendy things, potential buyers also pay attention to the quality of products. Because fashion items are often used and every day, if supported by high-quality materials, they will be very successful in attracting buyers to buy them (Fransisca and Elia, 2021).

Research shows that when people have trust in a brand, they are more likely to buy their products. Using intervention variables such as brand trust can make people more likely to buy items while in use. Product quality has a positive effect on purchasing decisions, but this influence is not statistically significant (Rosyta, 2021).

3. The Influence of *Brand Image* on Purchasing Decisions.

Some studies have found that people who think The Body Shop is a good brand are more likely to buy their products. Product quality, on the other hand, has a huge impact on whether people buy from The Body Shop.

In many experiments, people buy The Body Shop products based on how good they look and how well they perform (Fitri and Mustofa, 2020).

Brand Image indicators can be used to describe brand image variables in this study. It can be used to do this. Compared with other factors, brand image characteristics have a big impact on purchasing decisions, the study found. This suggests that from a consumer's point of view, a deterioration in Zara's brand image or impression will result in a decrease in consumer purchasing decisions. According to the study's conclusions, brand image enhancement has the ability to reduce purchase decisions. This is because the sample studied feels that brand image is not the most important factor in decision making, but it is still a consideration when buying a product.

When shopping for a brand, *brand image* is very important in consumer consideration. If a brand has a bad *brand image*, consumers will avoid buying it (Fransisca and Elia, 2021).

Brand image variables affect purchasing decision variables According to the results of research by Loutta and Bitta (1998), consumers of Nexian Jakarta mobile phones will consider brand image when buying Nexian mobile phones. Consumers can identify something, evaluate its quality, and reduce the risk of making purchases based on brand image. There are also other factors to consider, such as affordability, simplicity of purchase, attractive design, and so on (Pantri and Septi).

According to research findings, brand image has a positive influence on purchasing decisions. When it comes to purchasing decisions, brand image has an influence on how consumers perceive a

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product. Customer trust in a product or service increases when the brand image of that product or service increases, and when the brand image is strong, consumers are more likely to make a purchase (Shimp, 2003).

It is very difficult and not easy to maintain a brand *image*, because there are always some changes that will be constantly pushed forward according to various consumer needs, which will affect consumer interest in brand products when consumers make purchasing decisions (Masley Cha, 2013).

Conceptual Framework

A good example is the next section. It talks about how variables interact with each other in the context of this article. This is a good place to start thinking about this article shown by the following diagram:

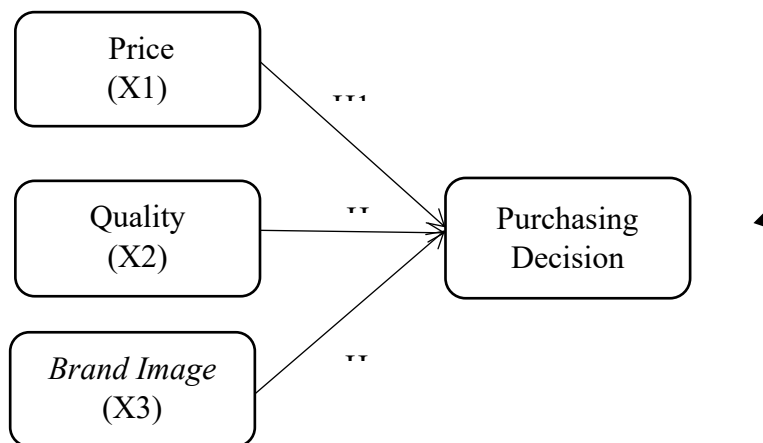


Figure 1: Conceptual Framework

Based on the conceptual framework image above, then: Price (X1), Quality (X2), and *Brand Image* (X3) affect Purchasing Decisions (Y1).

In addition to these three exogen variables that affect Purchasing Decisions (Y1), there are many other variables that influence it, including:

- a) *Brand Awareness*: (Yunita and Ali, 2017); (Brestiliani and Suhermin, 2020); (Novansa and Hapzi, 2017)
- b) Promotions: (Rizky, M.F., and Yasin, 2014); (Mispiani, 2021); (Irawan, 2014)
- c) Aesthetics: (Cici, Rizky, and Mareta, 2018); (Lita, 2016); (Frاندika and Osa, 2018)

CONCLUSION AND ADVICE

Conclusion

Relevant publications and arguments can be reviewed on a theoretical basis, and proposals for additional research can be formed:

1. Price influences Purchase Decisions.
2. Quality influences Purchasing Decisions.
3. *Brand Image* influences Purchasing Decisions.

Suggestion

This study shows that price, quality and *brand image* influence consumer purchasing decisions.

Through this study, it is hoped that entrepreneurs can pay more attention to the price and quality of their products to get a good *brand image* in the eyes of consumers. As business competition increases, price, quality and *brand image* become a part that can significantly affect consumer purchasing decisions

and sales of a product. Through good prices and quality, the company is expected to compete with competitors or even become superior among similar companies.

The study suggests that, in addition to price and quality, there are several additional factors that might influence purchasing decisions at all levels and types of organizations or businesses. To discover the factors that influence purchasing decisions, more studies are needed. In addition to the characteristics described in this article, there are many other considerations that may influence purchasing decisions.

Brand recognition, promotion, and beauty are further factors to consider.

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**Character Make-Up Course Development in the Faculty of Art and Design.
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ABSTRACT

The character make up course is a new elective subject for the Visual Communication Design study program so that it requires a learning process and understanding from educators or supporting lecturers who will provide theoretical and practical advice, and this is not easy but also not difficult for educators and students. This of course requires innovation and creativity that must be developed, how can the stages in learning character make-up be watched over and over again, of course not the lecturer teaches, but with the digital world there are many choices including tutorial videos that can be shared on YouTube so that they can be played back according to student wishes.

The aim of this research is to develop learning in character make-up courses, how the results of the video tutorial are. The strategy chosen and applied to development as the target of this learning material is Visual Communication Design students in fourth semester as the study program's elective course. The research method used is the Dick, Carey and Carey model consisting of systematic stages used to develop learning products. The production results are reviewed by learning design experts, and learning media experts. A series of formative evaluation sessions - review and revision processes were carried out in the development of this lesson. The results of this study indicate that learning using video tutorials is very helpful for increasing abilities and skills in character make-up, the advantages can be witnessed and noticed many times and make it easier when face-to-face is missed.

Keywords : Make-up Karakter, video tutorial, Visual Communication Design

INTRODUCTION

Character make-up is a make-up that is applied to change a person's appearance in terms of age, character, face, ethnicity, and nation so that it matches the character being played. Character make-up is divided into 2-dimensional and 3-dimensional character make-up. 2D character make-up is makeup that is applied to change a person's appearance in terms of age, character, face, ethnicity and nation by smearing or brushing either as a whole or only in part so that it can only be seen from the front. 3-dimensional character make-up is make-up that changes a person's face or shape in whole or in part by using additional ingredients that are directly applied or affixed to parts of the face so that they can be seen from various points of view (Paningkaran, 2010: 10). Make up karakter 2 dimensi divided into 4 expressions angry, sad, happy and surprised (Tan, 2010: 86).

Character make-up course is an elective subject of the Visual Communication Design study program in semester IV to support Multimedia specialization, basic techniques are needed to get the right and appropriate character roles in a film story or advertisement that is played so that it requires special skills in make-up so that you get results the maximum. character make-up with the theme of disability or injury is a facial makeup as we make a model or wound in appearance like a disabled/injured person. Wound defect make-up including 3-dimensional make-up

Factors supporting education really need to get attention and no less important is the human resources of educators. How the professionalism of teaching staff in the implementation of education needs to be studied. This is considering that one of the possible causes of educational failure is the factor of a lecturer as the main role in the implementation of education and education in learning in tertiary institutions. Government Regulation Number 19 of 2005 concerning National Education Standards, Article 28, Paragraph 3, h.13, as is known, that competency standards a lecturer must possess as a learning agent at the tertiary level include: a) pedagogic competence: b) competency personality: c) professional competence: and d) social competence. Lecturers must also be innovative, learning techniques in carrying out innovations in educational institutions. Improving the quality of learning, including learning Character Make-up Subjects to comply with the demands of educational requirements and development needs, can be done by utilizing educational technology, one of which is developing an innovative learning system.

As the spearhead of education, increasing the competence of lecturers as educators in the learning system is very important. It is important not only for educators personally, but collectively from other components in the education system the impact on teaching staff will have a good impact from increasing competence. In the end with the increasing quality of education in Indonesia. Therefore, it is important to do research on the Development of Learning Techniques for the Character Make Up Course in the Scope of the Faculty of Art and Design, Trisakti University. Can be used as a tool that supports the teaching and learning process and not only implements teaching materials on the web, but also creates mature learning scenarios to invite active and constructive involvement of students in their learning process.

The formulation of this development research problem is as follows:

1. How is the development of Learning Techniques for the Character Make Up Course in the Scope of the Faculty of Art and Design, Trisakti University?

1. THEORETICAL

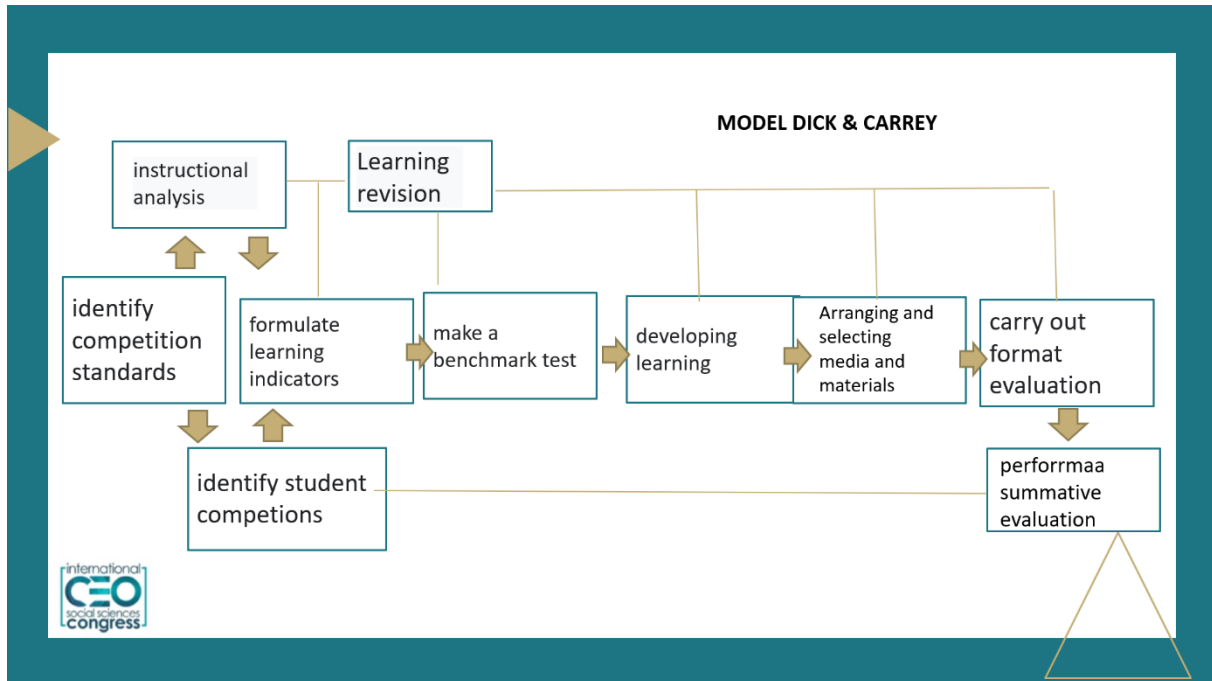
In the character make-up course, students plan the concept for each theme given by the lecturer every semester, there are 7 materials that must be mastered by each student 1) old character; 2) the character of the wound on the face; 3) the character of the severe wound on the hand; 4) the character of the sugar skull; 5) characters similar to figures and artists; 6) horror characters ; 7) festivals.

This research is expected to overcome these problems. So according to the title "Development of Character Make-up Learning Techniques" it is expected to be able to overcome students who cannot attend and want to know more deeply because; 1) adapting to student characteristics; collaborative and with an efficient learning system; 2) developing a shared perception structure; 3) collaborative learning system to achieve student learning efficiency.

This theoretical framework relates to the learning system for character make-up courses 60% practice and 40% theory namely, learning design models that are selected and developed in accordance with character make-up courses, learning strategies, attitudes, visual communication design student characters, facilities and infrastructure character make-up.

This study used the Walter Dick and Carrey learning design which was implemented up to the ninth step. The Dick and Carrey learning model has 10 steps, but research only uses 9 steps, namely: 1) Identity Instruksional Goal; 2) Conduct Instructional Analysis; 3) Analyze Learners and Contexts; 4) Write Performance Objective; 5) Develop Assesment Instrument; 6) Revise Instructional; 7) Develop Instruksional; 8) Develop and Conduct Formative Evaluation on Instruction (Walter Dick and Carrey, The Systematic Design of Instructional, 2009, h.15).

The reasons for the researchers using the development of Dick and Carrey learning techniques in collaboration with learning videos are as follows: 1) This model is able to overcome and find solutions that are most suitable for existing problems; 2) This research can generate knowledge and insight for lecturers and students to overcome problems during learning process; 3) The research recommendations are able to produce learning videos; 4) Able to motivate lecturers of the Faculty of Arts and Design to always innovate to develop innovative techniques and methods with advances in digital technology; 5) Able to facilitate lecturers as mentors and students during learning.



Character Makeup Learning Technique Development Chart

2. RESEARCH METHODOLOGY

This research is research and development based on The Research & Development (R&D) cycle from Borg and Gall for the information collecting data stage and the stage for developing learning products using the Dick and Carey model development steps. Then Borg and Gall stated the research and development process method used to develop and validate educational products. Research and development is a process for developing and validating educational products. The research and development used to design character make-up courses within the scope of the Faculty of Fine Arts and Design, Trisakti University, uses the Borg and Gall research development approach. According to him, for the development of learning products using the system design Dick and Carrey (Meredith D?

3. RESULTS AND DISCUSSION

This chapter describes two main parts, namely research results and discussion. The research results describe the findings of the preliminary research and the steps for developing learning techniques up to the field trial. Meanwhile, in the discussion section, an analysis of research findings and development data is presented.

3.1. DEVELOPMENT OF LEARNING TECHNIQUES

This section is clarified in the next section, which includes; (1) Research Study Results, (2) Learning Technique draft 1, (3) learning tools draft 2, and 4 learning techniques the final draft (b) the feasibility of learning techniques which include (1) the feasibility of learning material experts, (2) the feasibility of experts learning design, (3) feasibility of learning media experts, (4) one-to-one test, (5) group test; c) the effectiveness of learning techniques including field tests.

Preliminary research is carried out at the beginning of even semester lectures until the end of the 2022/2023 even semester. The techniques used to collect information and data are observation, questionnaires, interviews, observations, and document analysis.

The customary collection tools used prior to distribution were discussed with the Team

Tabel 3.1

Subjects and preliminary research data collection techniques

No	Subjek Data	Observasi	Questioner
1	Students	-	18
2	Lecture	-	6
3	Study program	1	-
4	University	1	-
5	Learning process	1	-

The preliminary research data obtained is explained as follows

a. Preliminary Research Observation Results

Observations were made to obtain physical data, learning support facilities and infrastructure as well as to find out direct learning in the Visual Communication Design Study Program, because as supporting lecturers there are researchers themselves so they really understand and know the advantages and disadvantages. There are nine (9) nine aspects observed in the preliminary observation, as complete as can be seen in table 4.1.2

Tabel 3,2

Preliminary Research Observation Results

No	aspect Observation	description
1	Total student in the class	Direct research observation, because researchers are supporting lecturers, the number of students is around 18 students
2	Indek Prestasi	Based on the data from the academic section, the average GPA for those following the GPA is 3
3	From high schoo	Ada 18 mahasiswa, 10 anak dari SMU dan 8 anak dari SMK There are 18 students, 10 children from High School and 8 children from SMK

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4	Total off meeting	Learning activities for the Make-up Character course consist of 16 meetings including the Mid Semester Examination and the Final Semester Examination
5	Classroom	Very adequate
6	SKS/ How many of study hours	3 credits, lecture from 13.00 to 16.20 (4 hours 20 minutes)
7	References for Supporting Character Make-up Courses	Referensi dari buku, media sosial seperti Youtube sangat membantu bagi mahasiswa
8	Classroom learning process	<ul style="list-style-type: none"> -Beginning of the activity is to introduce yourself as a supporting lecturer and accompanying lecturer - Introducing the name and origin of the school so that the atmosphere is more fluid because this course is an elective subject as a support for multimedia specialization. - Class entry rules - Explain the Lecture Contract - Explain RPS - Class attendance rules, not less than 70% - Maximum delay of 15 minutes - Provide examples with power point slides from the previous class and material for character make-up and what equipment to bring next week - Make-up equipment is part of the facilities of the Study Program - The second week of the learning process meeting, the supporting lecturer provides direct or live learning from the equipment used until the end and students participate directly -Students are very enthusiastic -Assignments are given in groups (1 group of 2 students, as makeup and models but alternately) and are done not at home but on campus. - Weaknesses in the video tutorial learning process that can be seen repeatedly so that it is more understandable and maximized - Giving assignments is given a time limit
9	Students karakter	<p>START KNOWLEDGE</p> <p>The character make-up course is an elective subject so that students are just getting it during</p>





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		<p>the ongoing lectures so there is no foundation in the subject yet</p> <p>Motivation to participate is very high, so lecturers are required to develop learning techniques not only face to face but that can be seen many times anywhere so that they can add to the skills and abilities of these students.</p>
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The research location with the title "Development of Learning Techniques is carried out at the Faculty of Fine Arts and Design, Trisakti University" in the even semester of 2022/2023, every Friday at 13.00 -16.20 WIB in room AP 101. The elective subject for the Visual Communication Design Study Program is Make up Character according to the RPS (Semester Learning Plan) held in semester 4. First Lecture for the Character Make Up course on March 3 2023, in the AP 101 Building, every Friday starting at 13.00 assisted by a companion lecturer explaining the Work Contract Format then continuing with the latest Semester Learning Plan (RPP) regarding attendance and assignment submission through the GCR (Google Class Room) and LMS (Learning Management System) application from Trisakti University for materials and assignment collection. regarding attendance and collection of assignments through the GCR (Google Class Room) and LMS (Learning Management System) applications from Trisakti University for materials and assignment collection.

Tabel Final Product Learning Video 3.5

No	LEARNING VIDEO THEMES	LINKS & RESULTS OF LEARNING VIDEOS
1	Theme" Bruised Face"	https://drive.google.com/file/d/18evJYCeRWpFpjHqDSEXa6JuQG6wYw7sl/view?usp=sharing
	Opening	<div data-bbox="730 1458 1278 1697" data-label="Image"> </div> <p>The first appearance in the Learning Video</p> <p>In the opening video for the Lecturer, the theme of the material is to make a bruised face, firstly explain what equipment is used. The purpose of making this learning video is for students to see over and over again what are the shortcomings in implementing Character Make Up as an elective subject in the Design study program Visual Communication in semester four (4) with specialization in Multimedia</p>

<p>Implementation Stage</p>	 <p>The application stage is for a bruised face, giving a bruised effect to the eyes and nose using maroon red eye shadow, adding brown then adding purple again so that the wound effect is more natural</p>  <p>The application stage for a bruised face can be added artificial blood so that it gives the effect that the wound looks deep and looks natural so that it looks like a real wound</p>
<p>Completion Stage</p>	 <p>The refinement stage for bruised faces, where to see whether in facial makeup if there are deficiencies added or reduced so that the wound effect looks perfect and natural</p>
<p>2 Tema” Tangan Luka” Theme "Wounded Hand"</p>	<p>https://drive.google.com/file/d/1xme-Wme73o0XCyyB1qn3guW1j7ihQwrB/view?usp=sharing</p>
<p>Opening</p>	

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		<p>Opening by the Lecturer introduces the name then the theme in the video and what steps must be done and paid attention to by the audience so that they can understand and understand the explanation,</p>
	<p>Preparation phase</p>	<div data-bbox="646 360 1362 624" data-label="Image"> </div> <p>In the preparation stage the lecturer explains what materials are used one by one so that students understand</p>
	<p>Implementation Stage</p>	<div data-bbox="646 757 1362 1055" data-label="Image"> </div> <p>The stage of applying the injured hand, first the hand that will be given the effect is cleaned with a cleanser such as toner then gives the effect with a tissue on the left or right hand and to disguise the skin color, a foundation is given according to the model's skin and how much will make the effect appear after the wound is evened out and then for wound effects by coloring with artificial eye color and blood or food coloring</p> <div data-bbox="646 1294 1362 1608" data-label="Image"> </div> <p>The picture is the stages of application with artificial color and blood already given for the effect of the wound so that it looks really injured so that when seen the wound looks natural so it looks like the original</p>
	<p>Completion Stage</p>	<div data-bbox="646 1727 1362 2024" data-label="Image"> </div>

		Then in the refinement stage here, namely giving the final touch to make it look more natural
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3.1.1 Uji coba *One to One* which was tested on 3 (three) students

value result table Pre Test dan Post Test one to one

Students	VALUE			AVERAGE VALUE	
	Pre	Post	Nilai Akhir	Pres T	Post T
A	65	75	B+	75	82,67
B	75	78	A-		
C	90	95	A		

Based on the results of the data from the Pre test and Post Test scores, the results of the Learning Videos add or increase students' grades and skills and abilities in character makeup

3.1.2. Small group trials were tested on 9 (nine) students

value result table *Pre Test and Post* small group

Students	Value		
	Pre	Post	Final score
1	65	75	A-
2	75	78	A-
3	75	85	A
4	75	80	A
5	78	85	A
6	72	87	A
7	75	90	A
8	75	85	A
9	75	80	A

Based on the results of the data from the Pre test and Post Test values, the results of the Learning Video add or increase the value and skills and abilities of students in making character makeup very well, which can be seen from the grades and results of student assignments

value result table *Pre Test and Post* Bigest Group

Mahasiswa	NILAI		
	Pre	Post	Nilai Akhir
1	65	75	A-
2	75	78	A-
3	75	85	A
4	75	80	A
5	78	85	A
6	72	87	A
7	75	90	A
8	75	85	A

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9	75	80	A-
10	75	82	A
11	75	83	A
12	75	90	A
13	75	90	A
14	75	90	A
15	75	90	A
16	75	90	A
17	75	90	A
18	75	90	A

Based on the results of the data from the Pre test and Post Test values, the results of the Learning Videos for field tests with a total of 18 students can increase both the grades and the skills and abilities of students in character make-up which is very good, as can be seen from the grades and results of student assignments.

CONCLUSIONS

Based on the formulation of the problem related to existing data and facts, the formulation of the problem, research objectives, the results of data analysis and the development of learning techniques for character make-up courses it can be concluded: 1) The results of this study are able to overcome students' understanding of the material provided, so that they are able to complete tasks; 2) Students are able to develop structured and systematic design concepts; 3) The research results produce a theoretical framework for developing learning techniques and implementing them during the learning process; 4) The results of this research are implemented in the form of technical instructions in the form of learning videos on the YouTube channel; 5) During the research process through trial and error, the process of developing materials, strategies, methods and evaluation processes is carried out so that learning outcomes are optimal; 6) Findings in research are used to carry out program implications into RPS (Semester Learning Plan), SAP (Learning Reference Unit) , materials, learning methods and strategies to evaluation of character make-up courses; 7) Research process through expert tests in the field of learning design, media and learning materials.

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CHAPTER 10

The Reinforcement of the Right to Education for Children of Internally Displaced People in Times Of Armed Conflict: a Glimpse From Indonesia's Perspective

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ABSTRACT

The right to education is a human right for everyone. Children are the most vulnerable group affected by armed conflict. This paper examines how the Indonesian government fulfills the right to education for IDP children who were victims of the Wamena riots, Jayapura which occurred in 2019. The method used in this research is library research by analyzing a series of related laws and regulations. The paper is normative research using secondary data through literature study. The analysis carried out in this study is a qualitative analysis; i.e. find or identify and interpret national regulatory norms regarding the right to education in Indonesia. The results of the study show that implementing regulations related to the right to education for children of IDPs in Indonesia has not been maximized because of some obstacles. The solution to overcome this problem is to involve local community leaders, NGOs, and other humanitarian agencies.

Keywords : IDPs, Children, Education, Armed Conflict.

INTRODUCTION

1.1 Background

Armed conflict and displacement are significant impediments to the realization of the United Nations Sustainable Development Goals (SDGs), which outline global policy priorities for a broad range of development issues (e.g., poverty, public health, and education). The expansive and protracted nature of armed conflict and displacement has strained the capacity of relief and development organizations (e.g., UN agencies and international non-governmental organizations) to provide basic protective and lifesaving services (i.e., food, water, shelter, health care, and education) to conflict-affected populations, particularly children. (United Nations Department of Economic and Social Affairs n.d.)

The number of internally displaced persons (IDP) by conflict and violence worldwide was 28,3 million in 2022, and 7.100 of them are in Indonesia. (IDMC 2023) Some of the IDPs in Indonesia are the result of riots involving local people in Jayapura, a province of eastern Indonesia, who cannot be controlled by the Indonesian police. The riots were included in the category of non-international armed conflicts or internal armed conflicts because there were no foreign elements involved. The riots affected local children's school activities so that their education is disrupted.

All kids have the legal right to education under international human rights law. All children must get a free, compulsory elementary education from the state, and it must be available to them. In 2015, all governments vowed to guarantee education for all children by 2030. (Van Esveld 2023) The threat of localized violence spreads fear in the affected communities, leaving school children at home and thousands of schools closed, or children traumatized and too anxious to learn. When students become displaced, IDP camps often cannot provide them with adequate education. (Unfried and Kis-Katos 2023) This raises the question about the enforcement of the right to education for children of IDP in Indonesia.

So far there has been no legally binding international agreement related to IDP but rather a guiding principle. So far there has been no legally binding international agreement related to IDP but rather a guiding principle. So far there has been no legally binding international agreement related to IDP but rather a guiding principle. This is understandable because IDPs are still under the protection of their respective countries so the arrangements are more likely to be made by their respective countries.

1.2 Methode

This paper is the result of normative research using secondary data in the form of a literature study that focuses on the riots in Wamena, Jayapura, Indonesia. The scope of this research is humanitarian law and human rights law which is related to Indonesian national law. This research is an initial study at the Center for the Study of humanitarian law and human rights at Universitas Trisakti with the hope that there will be further research related to this theme in the future. Question research is to find out how the right to education for IDP children was fulfilled during an armed conflict.

2. LITERATURE REVIEW

2.1 The relations between conflict and education

Conflicts in humanitarian law are divided into two types, namely international armed conflicts and non-international armed conflicts. International armed conflicts are governed by the 1949 Geneva Convention and Protocol I 1977 while non-international armed conflicts are governed by Protocol II 1977. Protection in international armed conflict can be maximum and minimum. Maximum protection is provided under Article 3 of the concurrent provisions and

Article 32 of the 1949 Geneva Convention IV while the minimum protection is provided under Articles 51 and 75 of Protocol I 1977.

In the situation of non-international armed conflicts, protection is provided under Articles 3, 4, 5, and 6 of Protocol II 1977 and Articles 27 and 32 of the Fourth Geneva Convention, and Article 75 of Protocol I 1977. Article 27 of the Fourth Geneva Convention Article 27 holds a significant position among the Convention's articles because it comes first in Part III. It serves as the foundation of the Convention by announcing the tenets which "Geneva Law" as a whole is built upon. In it, the fundamental rights of every man and woman are proclaimed to be inalienable, as is the principle of respect for the human person. An important turning point in the development of international law, particularly international humanitarian law, which is most concerned with a man as a man, is when these principles are stated in an international convention and given the status of legal responsibilities. It codifies ideas that have existed since antiquity and have become part of international law since the Reformation. Such ideas are not unique to Western civilization; they are also present in the fundamental philosophies of other civilizations, particularly those of Islam, India, and the Far East. Article 27 is a typical example of how concepts and the law have changed over time.

Even though it is a non-international armed conflict, the provisions of Article 75 of Protocol I 1977 are still enforced because this article is a fundamental guarantee for the protection of all people. Specifically for children, protection is provided under Articles 77 and 78 of Protocol I 1977. These provisions confirm the children are protected from indecent assault, recruiting into the armed forces, and improper evacuating.

Before the ratification of the present Protocol, Article 3 as a common article, which was shared by all four Geneva Conventions of 1949, was the only provision that applied to non-international armed conflicts. Given that non-international conflicts are frequently waged with greater brutality than international conflicts and since non-international conflicts account for nearly 80% of all casualties in armed conflicts since 1945, this article proved to be insufficient. The current Protocol aims to include internal warfare within the scope of the fundamental laws governing armed conflicts. While the section on tactics and weapons was removed, Article 4 (basic guarantees), which forbade ordering that there be no survivors, was kept, and Part IV (Civilian Population) Articles 13 to 18 still deal with protecting civilians. As a result of the narrow definition of the material field of application in Article 1, Protocol II will only apply to a subset of the internal conflicts covered by Article 3 of the 1949 Conventions. Fundamental guarantee for all people in non-international armed conflict is confirmed in Article 4 of Protocol II 1977 while protection of the civilian population is stipulated in Article 13 of Protocol II 1977.

Education is a fundamental human right and a key factor in the advancement of the economy and society. But conflict frequently interferes with children's schooling.(Unfried and Kis-Katos 2023) Over the past ten years, scholars studying education and conflict have become increasingly interested in the connection between the two. However, most of this research has been qualitative up to this point, which is a reflection of the fact that the research agenda has been primarily driven by the concerns of practitioners and researchers "in the field," a lack of comparable international data, and the complexity of how education and conflict interact. (Østby and Urdal 2010)

Education and conflict should be viewed about one another and it is necessary to understand "the constructive and destructive impact of education—the two faces of education".(Versmesse et al. 2017) The World Bank, for example, notes that its reconstruction efforts should take into account that "schools are almost always complicit in conflict," and the "Journal on Education in Emergencies" is devoted to concretizing their "powerful theory," according to which "education [...] is not an unalloyed good because it can contribute to either conflict or peace," through "in-depth case studies." the relationship between education and

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conflict can be complex and multidimensional, depending on different mediating factors, and the level of analysis. (Østby and Urdal 2010)

Unfried and Katos investigate the heterogeneous effects of different conflict types and context-specific conflict characteristics. The results show no robust effect of their generic conflict exposure, which includes every type of conflict event. But, the most severe and prolonged conflicts do result in substantial average losses of educational attainment.(Unfried and Kis-Katos 2023) meanwhile, Teresa Hanley found that the involvement of conflict-affected academics in Iraq and Syria in academic endeavors shows that there is potential for progress in higher education development, academic advancement, and broader societal advantages in conflict-affected nations. (Hanley, Consultant, and Kingdom 2020)

2.2 Education is a human right

Education is a human right, a powerful driver of development, and one of the strongest instruments for reducing poverty and improving health, gender equality, peace, and stability. Although education has always existed, the idea of a universal "right to education" only appeared in the 1948 Universal Declaration of Human Rights. There is a moral and legal distinction to be made. The following definition of the right to education conforms with International Education Law: Every human being has the right to education, regardless of their background, from infancy until the end of their lives. Consequently, the primary rightsholder, who is the person receiving education, should be the focus of this.

The right to education is a set of rights that protects the integrity of its normative substance. The phrase "full development of the human personality" encompasses them all and guarantees the right to all types of education required for the growth of all of their dimensions, including physical, ethical, intellectual, and civic. The right to education encompasses all means and conditions necessary to realize it, including all material and intangible elements that contribute to its likelihood, efficiency, and utility. It is important to recognize the interdependence between respect for the rights of the person receiving education and respect for the parents' human rights.

The 1989 Convention on the Rights of the Child affirmed the right to education. All children should have access to free primary education. Everyone should have access to secondary education. Based on aptitude, tertiary education should be available to everyone through all applicable access. (United Nations 1989) Children have a right to play, leisure time, and participate in cultural activities. (UNICEF 2009) Education should foster the full development of children's personalities, mental, and physical potential, as well as respect for human rights, tolerance, and international understanding. (UNICEF 2009)

2.3 Education is a tool for the protection

Education is a vital and powerful weapon for protecting kids and teenagers. Promoting universal primary education will make it easier to identify children who are being used as slaves or as labor, who are being physically and sexually abused, who are disabled, or who require medical attention. Through the educational process, children can learn about their responsibilities, rights, and how society works as well as who is being physically and sexually abused, who is disabled, or who requires medical attention. Through the educational process, children can learn about their responsibilities, rights, and how society works. The prohibition on enlisting minors in the military should be taught in schools.

2.4 Education encourages independence, social advancement, and economic growth

States are required to allocate the maximum level of available resources to realize economic, social, and cultural rights, including education. (United Nations 1966) Education promotes individual independence and creates the "human capital" necessary for the future economic and social growth of one's place of origin or residence. People with higher levels of education are more likely to find employment, remain employed, learn new skills on the job,

and earn more over their working life relative to those with lower levels of education. (The Organization for Economic Cooperation and Development 2018).

2.5 IDPs and their education

Being a child shapes how the child experiences internal displacement, and being displaced shapes a child's experience of living through armed conflict or violence. Certain groups or categories of internally displaced children can be especially at risk, such as unaccompanied, separated, those who suffered severe trauma, and children associated with armed forces or armed groups. (Jimenez-Damary 2019) Million primary and early secondary school-aged children live in internal displacement worldwide. Millions of these kids face a significant danger of missing school. (UNICEF 2022) Nevertheless, because of a lack of information, resources, and assistance, their situation is usually ignored. As children leave their regular school and may need time to enroll in a new school in the host community, or as schools act as temporary shelters for displaced individuals, their education is frequently disrupted by the act of displacement itself. As a family moves, they may lose their student records or other personal identification, which can complicate registration.

Despite their extreme vulnerability, national educational policy and humanitarian response strategies frequently ignore the unique educational needs of internally displaced children. Since assessments of their needs are uncommon and rarely conducted using standardized procedures, it is challenging to find comprehensive information on their schooling and to spot trends over time and in different situations. The specific hurdles to schooling that depend on context, a child's age, gender, or level of handicap, as well as a family's income, level of education, and other sociodemographic factors, are rarely reflected in data on internal relocation. (UNICEF 2022) Fears displaced groups have about providing information to governments if legal protections for their status and protection are not sufficiently established often serve to exacerbate these difficulties.

Commonly, the state provides education as a public good. The availability of education is influenced by the state's ability to create and maintain institutions that deliver public goods and services, which involves having the financial means, the administrative know-how, and the political and military might to do so. (Daviet 2016) As a result of providing fewer public goods on average, nations with weaker states tend to have less developed human capital. On the contrary, the concept of education as the common good suggests the transformation of public institutions through greater participation of citizens and communities in the introduction of viable policies and practices to overcome more utilitarian and individualistic approaches and build more democratic education systems. The idea of education as a common good emphasizes the goals of education as a group effort for society. (Locatelli 2018)

3. FINDING AND DISCUSSION

3.1 Finding

The issue of child kidnapping is said to have been the trigger for the rioting which resulted, according to police data, 10 people died, 14 people were injured, and one police officer was shot by an arrow in Sapalek Village, Wamena District. The rioting also caused several houses and kiosks in the vicinity to be burnt by the masses. (BBC News Indonesia 2023)

IDPs who had flown to Jayapura were arriving from several districts around Jayawijaya, spread over 23 points, for a total of 8,000 people. (Andrew Suripatty 2019) Initially, there were 3,200 IDPs, which increased to a total of around 5,500. They came from Jayapura and Wamena. IDPs who came to Wamena came from Yalimo, Lanny Jaya, and Tolikara Regencies. (Cipto and Ariyanto 2019) More than 700 children are forced to study in emergency schools built by volunteers. (Amindoni 2019) The condition of the emergency school was not proper because it was built of wood and had a tin roof. Children squeezed together, some are forced to stand alone or sit on the ground, or if they sit too close together it is difficult to write. Initially, the

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emergency schools accommodated around 320 schoolchildren from 10 elementary schools, four junior high schools, and one high school at 16 points in Nduga Regency. Over time, the number of IDPs is increasing. The last number of Nduga IDP children studying in emergency schools reached 723 students. (Rachmawati 2019)

The children of victims of the riots in Wamena, Papua, in the province of South Sulawesi, are guaranteed that they can study in Makassar without the need for a transfer certificate. This was conveyed by the Regional Secretary of the South Sulawesi Province, Abdul Hayat, during his visit with Deputy Governor Andi Sudirman Sulaiman in Jayapura, Papua. (Cipto and Ariyanto 2019) Meanwhile, as many as 702 West Sumatran migrants affected by the Wamena riots have been assisted to return to their hometowns by various parties, including ACT and the West Sumatra Provincial Government. (Nursalikah 2019)

As many as 118 inhabitants who were victims of the Wamena riots returned to Lumajang Regency, East Java, 54 of those using Dobonsolo ship landed at Tanjung Perak Port, Surabaya. After arriving at the port, officers immediately identified the team consisting of elements from the TNI, Polri, Tagana, BPBD, and Pioneers of Peace, while the medical team carried out health checks on the evacuees who were victims of the riots in Wamena. (Ulum 2019) Meanwhile, 24 individuals returned to Trenggalek, a regency of East Java (Muttaqin 2019) and 120 arrived at Abdulrahman Saleh Airport, Malang, East Java, on October 2, 2019, aboard the Indonesian Air Force's Hercules aircraft. (Widianto 2019)

3.2 Discussion

According to international law, the host nation is responsible for ensuring that displaced children have access to education. (Norwegian Refugee Council 2021) Therefore, in dealing with IDP victims of the Wamena riots, Indonesia is trying to fulfill its obligations to protect them. The right to education for children during an armed conflict implicitly refers to the provisions of the Geneva Convention of 1949 because Indonesia ratified the convention through Law No. 59 of 1958 concerning the Participation of the Republic of Indonesia in the entire Geneva Convention on 12 August 1949. The 1949 Geneva Convention is the main guideline because, based on the Convention, children fall into the category of civilians who must be protected. Protection for children related to the fulfillment of their right to education is more of a solutive nature, not preventive, because the steps are taken after the conflict occurs, not before the conflict occurs. Preventive steps were taken to avoid civilian casualties, so they were evacuated first to civilian camps far from military objects. This is by the distinction principle in humanitarian law. Under the principle of distinction, all involved in the armed conflict must distinguish between the persons thus defined as the combatants and civilians. Combatants must distinguish themselves (i.e., allow their enemies to identify them) from all other persons (civilians), who may not be attacked nor directly participate in the hostilities. (ICRC n.d.)

One of the government's efforts to fulfill the right to education for IDP children was an appeal by the Minister of Education and Culture, Muhajir Effendy, to schools around the evacuation sites in Papua to accommodate children who were victims of the conflict in Wamena. (CNN Indonesia 2019) The action corresponds with Presidential Decree Number 36 of 1990 concerning the Ratification of the Convention on the Rights of the Child and Articles 28 and 29 of the Convention on the Rights of the Child. Besides that, this effort is also the government's obedience to the provisions of Article 9 and Article 59 of Law Number 35 of 2014 concerning Child Protection. These provisions regulate education for children and child protection in emergencies. According to Article 59 of Law Number 35 of 2014, the central government, regional governments, and other state institutions are obliged and responsible for providing special protection to children. Furthermore, Article 60 specifies that what is meant by children in emergencies are children, victims of riots, and children, in situations of armed conflict.

The initial step in handling the conflict in Wamena is to implement the provisions of Article 38 Paragraph 2 of Law Number 7 of 2012 concerning Social Conflict Handling, which are post-conflict recovery efforts including; reconciliation, rehabilitation, and reconstruction. To support the effort handling the aftermath of the conflict, the government implemented some provisions such as Presidential Instruction Number 9 of 2020 concerning the Acceleration of Welfare Development in Papua and West Papua Provinces, Presidential Decree 20 of 2020 concerning The Integrated Coordinating Team for the Acceleration of Welfare Development in Papua and West Papua Provinces and Government Regulation Number 2 of 2015 Concerning Regulations for Implementing Law Number 7 of 2012 Concerning Social Conflict Management.

CONCLUSION

The right to education for IDP children in times of armed conflict in Indonesia is regulated by a series of provisions, both originating in international law and national laws and regulations. The fulfillment of the rights was not perfect but needed more effort from the stakeholders.

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CHAPTER 11

Mapping the Use of Artificial Intelligence and the Applicability of International Humanitarian Law: 2020-2023 Literature

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ABSTRACT

One aspect of human life affected by the development of the Artificial Intelligence (AI) is the increasing use of AI in the situation of armed conflicts. This paper will explore the usage patterns of AI in the military context, and the applicability of the basic principles of International Humanitarian Law. This research is normative research using hybrid methods consists of bibliometric analysis and literature review on harvested data from selected reputable journal database indexed by Scopus. Certain keywords used and followed by data filtering and data classification that produces the included documents. Based on the included documents, the bibliometric analysis of this research describes the bibliometric analysis on co-occurrence, co-citation, and co-authorship based on the network visualization as the usage patterns of AI in the military context under international humanitarian law (IHL). The literature review on the included documents shows while there are issues arising from the use of AI in military context such as the ethics or moral dilemma, the applicability of IHL, and the issue of the accountability, but the tendency shows that the development of AI should be guided by the basic principles of IHL considerations, and human oversight.

Keywords : Artificial Intelligence, Autonomous Weapons Systems, International Humanitarian Law, Distinction Principle, Proportionality

INTRODUCTION

Currently, the use of Artificial Intelligence (AI) is increasingly unstoppable in everyday human life. The use of AI can help and give benefits to human work that become easier and extraordinary faster. Therefore, AI is highly preferred because it provides an efficient and effective solution to piling up the work. Various areas of human life that use the benefits of AI are numerous, perhaps almost touching all aspects of human life. Fields that have used AI include medicine, finance, banking, education, agriculture and food, data security, social media, travel and transportation, industry, automotive, robotics, and e-commerce, and this list can continue to grow.

According to Murat, the use of AI in the medical field, especially in the field of urogynecology, is useful as a diagnostic tool. AI can enhance existing technical capabilities such as dynamic MRI, functional MRI, or urodynamics. AI also provides important therapeutic benefits in the field of urogynecology (Mehmet Murat Seval, 2023). In the financial sector, the influence of using AI is felt to be very useful in finding a business environment and can facilitate blockchain deployment. In Aleksandrova et.al paper, AI can also play a role in identifying risks, optimizing a process, and can be an accelerator for development. AI can also help promote finance, expand banking services, and provide customer support in e-banking, mobile payments, FinTech products, and financial management (Aleksandrina Aleksandrova, Valentina Ninova, 2023; Shiva, Gupta, Sachin Modgil, Tsan-Ming Choi, Ajay Kumar, 2023). Meanwhile, in the field of education, Pisica et.al stated that the benefits of AI can be used for the learning process, although there are still many pros and cons. Those who agree that AI is needed in the development, adjustment, and improvement of the teaching-learning process. Besides that, the use of AI can also affect the improvement of students' abilities and competencies. AI also provides opportunities for everyone to increase knowledge according to what they need and another benefit is administrative cost efficiency. Even so, some disagree with the use of AI in the education sector based on the reason of social-psychologically affected problems such as addiction problems, problems of lack of empathy, and making students isolated from their environment. Those who disagree also state that AI in education will cause other problems such as data protection, ethical aspects, and unemployment problems (Alina Iorga Pisica, Tudor Edu, Rodica Milena Zaharia, 2023). Whereas Taneja et.al stated that in agriculture and food, the use of AI will also increase efficiency and productivity in the agri-food industry, although it can also result in unemployment (Akriti Taneja, Gayatri Nair, Manisha Joshi, Somesh Sharma, 2023).

In addition to various aspects of life affected by the use of AI as mentioned in the paragraphs above, the use of AI has also penetrated the military field. The integration of AI into various military operations today is also a very significant development. Countries are currently developing AI to increase their military capabilities, ranging from the use of autonomous weapons and robotics technology to AI-based battlefield support systems to military protection. AI in the military context can be used as a tool to improve the defense sector starting from logistical capabilities, detection of military targets, and cybersecurity (Marta Bistron, 2021).

In addition, according to Ozdemir, the various benefits of AI in the military field can be used, among others: (i) based on the image-recognition algorithms, AI can be used to help carry out the process of interpreting information; (ii) AI can also develop various military equipment such as drones, planes, ships, tanks, which do not require human supervision, even though this is quite dangerous; (iii) AI can also be used for command and control system, including the management of warfare by analyzing the big data (Ozdemir, 2019).

According to István Szabadföldi, the use of AI has has a significant impact in the military field such as the impact on (i) nuclear armament, cyber and information warfare, materials and bio-tech, aerospace and AI arms-race; (ii) in terms of command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR), the use of AI has been able to provide support in war-scenarios and AI-recommended courses of action (COA), support in data fusion, categorization and targeting in terms if TCPED (tasking, collecting, exploiting, disseminating), and retrieving information; (iii) AI provides efficiency and safety in the operation of various types of autonomous systems of unmanned vehicles; (iv) AI provides assistance in capability planning with decision making on various complex factors; (v) AI improves sensor integration and data fusion which results in fast and reliable detection, identification and monitoring; (vi) AI develops robotics technology, namely military uses of artificial intelligence, automation, and robotics (MUAAR); (vii) AI is connected and interrelated to technology of big data including data processing, data analysis that brings significant volume, velocity, variety, veracity and visualization challenges; (viii) Big data advanced analytics (BDAA) will generate efficiency in the areas of intelligence, surveillance, and reconnaissance so as to produce a higher level of situational awareness (Szabadföldi, 2021).

However, in addition to the various benefits of AI in the military context as mentioned in the previous paragraphs, AI also creates problems in its application. Debates that have arisen in various international forums and expert studies suggest that the use of AI in military operations raises several problems. The first problem is a moral or ethical issue. The biggest question is whether it is ethical to let a machine decide to take human life. Such a decision in military operations is not an easy decision. It also requires a basic understanding of compliance with the basic principles of IHL. Submitting such an important decision to a lethal autonomous weapons system is a dangerous decision and this requires further in-depth study (Altmann, 2019). Apart from the ethical issues, the use of AI in the military field also raises problems in terms of adherence to basic IHL principles, such as the distinction principle (Pacholska, 2023). The principle of distinction as the basic fundamental principle of IHL requires the parties to the conflict to always distinguish themselves between groups of combatants and civilians. Combatants are those who are entitled to participate directly in combat, while civilians are groups that must be protected from direct attacks as long as they can maintain their civilian status. Meanwhile, the use of AI in autonomous weapons systems, for example, cannot fully understand this, especially when facing combatants who have surrendered or have hors de combat status (Steven Umbrello, 2021). The decision on whether the autonomous weapons systems can comply with IHL principles is still being studied by the authors such as Zurek and Kwik (Tomas Zurek, Jonathan Kwik, 2023). Even in the latest developments, the use of AI that is integrated with machine learning (ML) and deep learning (DL) can produce a technology called "collaborative robots" (cobots). These cobots will produce intelligent robots that can learn, adapt, and improve their performance on complex problems with a high degree of accuracy. Robots that use AI, ML, and DL systems including autonomous vehicles, and drone navigation, enable the robots to perform tasks considered too difficult or dangerous for humans to do (Mohsen Soori, Behrooz Arezoo, 2023). Another issue of using AI in the military context is the accountability of the user. According to Boulanin and Lewis, countries that use AI in their military operations must have a framework that provides guarantees that "natural persons" who are involved in the use of equipment that has been integrated with AI in an armed conflict, can be responsible for at least: (i) on the technical aspects of the integration of AI into a military apparatus; (ii) the actions of those involved in the development and use of those AI tools; and (iii) policies and processes implemented within a country. Boulanin

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and Lewis state that this responsibility can be used as a basis for implementing various requirements for the use of AI, including legal [IHL] requirements (Vincent Boulanin, 2023).

Based on the introduction in the paragraphs above, this paper proposes two problem identifications. To identify the first problem, we try to describe the mapping of the latest developments in the use of AI in the context of the military. The second problem, we try to describe the trend of applying IHL principles in military operations using AI in the last three and a half years. We determine several IHL basic principles that will be examined, namely the principle of distinction and the principle of proportionality.

1. METHODS

This study is a normative research, which analyzes the applicability of IHL's basic principles regarding the use of AI in military operations. The method used is a mixed method consisting of Bibliometric Analysis and Literature Review. We use scientific articles as the primary data harvested from reputable international journals indexed by Scopus in the period of 2020-2023.

The Bibliometric method was carried out to get an overview of the analysis of the latest developments concerning the use of AI and its relation to the basic principles of IHL. The description for the last 3,5 years will map out the network visualization of Co-occurrence, co-citation, and co-authorship. To produce this visualization we use Vosviewer software.

In addition to the Bibliometric findings, the authors also provide an analysis of the recent trends in the development of the use of AI based on the Scopus dataset that has been obtained.

While the literature review is used based on the Scopus dataset for analyzing the legal content of the articles with the perspective of basic principles of IHL applied in the use of AI.

1.1 Bibliometric Analysis using Vosviewer Software

Bibliometric analysis was conducted in several phases. First, collecting scientific article data from reputable international journals on the Scopus database website. To obtain this data, we use two main keywords, namely "artificial intelligence" and "international humanitarian law". We input all of the synonyms for the two keywords, thus we get the following determined keywords: ("artificial intelligence" OR "machine learning" OR "expert systems" OR "natural language processing" OR "expert systems" OR "intelligent retrieval" OR "knowledge engineering" OR "neural network" OR "neural networks") AND ("international humanitarian law" OR IHL OR "laws of armed conflict" OR LOAC OR "laws of war"). We set limitations to publications in English that are considered for analysis, as well as the period of 2020-2023. This process produces a Scopus dataset of 43 included documents.

The Scopus dataset was then analyzed based on Bibliometric using Vosviewer software. To avoid keyword duplication that may still be found, in the second step we conducted the filtering process by generating a Thesaurus file from the Vosviewer application. The process of generating a bibliometric data will produce a visualization generated from Vosviewer. We determined the relationship of co-occurrence, co-citation, and co-authorship that are interconnected from one author to another. Each of these kinds of visualization consists of network visualizations.

The network visualization shows the network between visualized keywords. The overlay visualization shows traces of research history, while the density visualization shows the density or emphasis on the research group. Density visualization can be used for the novelty of the research. By

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determining the minimum total of keywords from the articles to be examined for each type of analysis in the Vosviewer software, we harvested visualization of co-occurrence, co-citation, and co-authorship.

The co-occurrence visualization will collect the interconnection of the author keywords and index keywords used from the articles (network between keywords) as shown in **Table 1** below:

Table 1. Result of co-occurrence type of analysis with two minimum occurrences

of Analysis	cs & Total Link length (TLS)	Cluster items: 19
Author keywords	Link 91	<p style="text-align: right;"><i>Cluster 1: 9 items</i></p> <p style="text-align: center;">Armed conflict, Behavioral research, Decision making, Ethics, Human Rights, Military use, State Responsibility, Targeting systems, and Weapons systems.</p> <p style="text-align: right;"><i>Cluster 2: 6 items</i></p> <p style="text-align: center;">Autonomous weapons systems, Human control, International Humanitarian Law, International Law, Military technology, and Proportionality.</p> <p style="text-align: right;"><i>Cluster 3: 4 items</i></p> <p style="text-align: center;">Arms control, Artificial Intelligence, Lethal autonomous weapons systems, Military ethics.</p>
Indexed keywords	TLS 234	

Note: data generated from Vosviewer.

Co-citation visualization visualizes the references used in the Scopus dataset shown in **Table 2**. The references will be linked if these references are used in the authors' articles. This analysis is used to find out which references are dominantly used in the documents.

Table 2. Result of co-citation type of analysis with five minimum occurrences

of Analysis	cs & Total link- length (TLS)	Cluster: 3; Cluster items: 48
Cited Authors	Link 753 TLS 6309	<p style="text-align: right;"><i>Cluster 1: 22 items</i></p> <p style="text-align: center;">Atkinson, K; Boulanin, V; Bruun, I; Corn, GS; Crootof, R; Davidson, N; Ekelhof, M; Goussac, N; Horowitz, MC; Jensen, ER; Kwik, J; Margulies; Moyes, R; Roff, HM; Sandoz, Y; Scharre, PD; Schmitt, MN; Swinarski, C; Thurnher, JS; van Engers, T; Zurek, T.</p> <p style="text-align: right;"><i>Cluster 2: 14 items</i></p> <p style="text-align: center;">Amoroso, D; Anderson, K; Bode, I; Boothby, WH; Chengeta, T; Dinstein, Y; Doswald-Beck, L; Grut, C; Kolb, R; Okorie, H; Sassoli, M; Sharkey, NE; Solis, G; Tamburrini, G.</p> <p style="text-align: right;"><i>Cluster 3: 12 items</i></p> <p style="text-align: center;">Arkin, RC; Asaro, P; Bostrom, N; Cummings, ML; Galliot, J; Garcia, D; Heyns, C; Sharkey, N; Singer, PW; Sparrow, R; Suchman, L; Zemin, AI.</p>

Note: data generated from Vosviewer.

Co-authorship visualization will describe the author's collaboration with other authors. Bibliometrics data generated by Vosviewer can visualize the results based on the author's name, author's organization, and country of origin of the author. In this study, we only generate the visualization of the author's country of origin as shown in **Table 3** as follows:

Table 3. Result of co-authorship type of analysis with one minimum occurrence

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of Analysis	ks & Total Link-	Cluster: 3; Cluster items: 10
	trength (TLS)	
		<i>Cluster 1:</i>
		Germany, Sweden, Switzerland, United States.
		<i>Cluster 2:</i>
		Bulgaria, Italy, Romania.
		<i>Cluster 3:</i>
		Australia, Canada, United Kingdom.

Note: data generated from Vosviewer.

1.2. Literature Review based on Scopus Dataset

We determine to use a literature review in this study to find out the interconnected between the scholars from the perspective of basic principles of IHL. The normative aspects of IHL will be analyzed based on the Scopus dataset that has already been determined.

2. RESULTS AND DISCUSSION

2.1. Bibliometric Analysis

In this section the visualization from generated data that consists of two types of analysis of the bibliometric generated from Vosviewer, namely Co-occurrence, and Co-citation analysis will be displayed.

2.1.1. Co-occurrence analysis

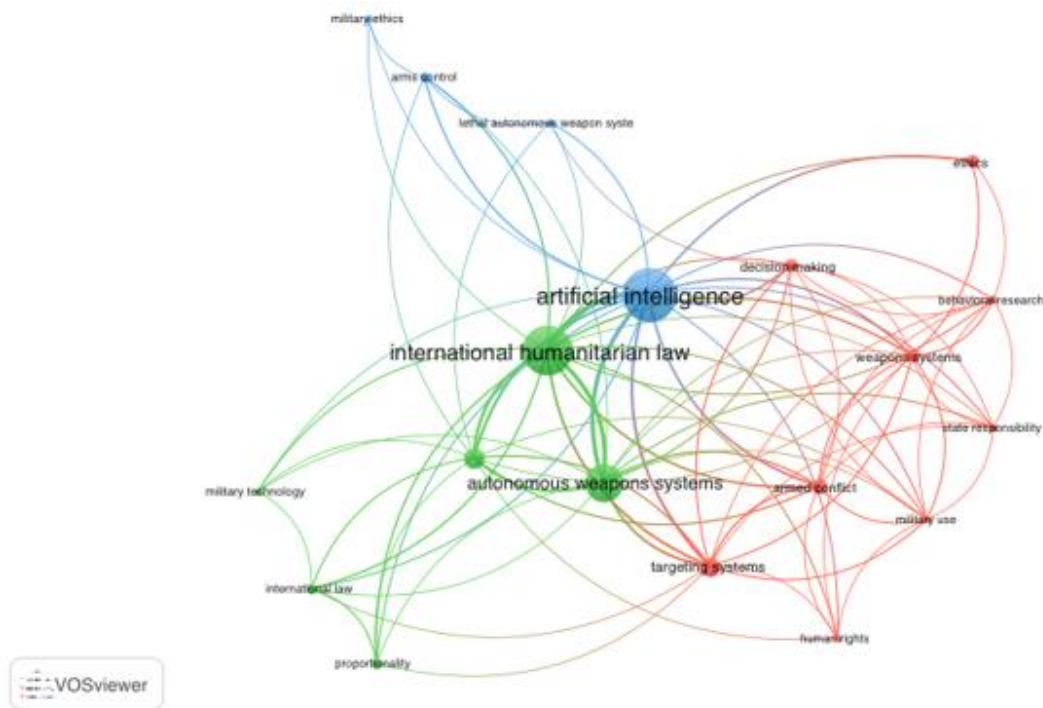


Figure 1. Network Visualization of the Co-occurrence Analysis

Based on the network visualization as shown in **Figure 1**, the larger the circle will describe the more frequently the items or keywords that have been used in the included documents. This describes that

the debate and analysis on the use of AI were conducted from the perspective of IHL and the use of autonomous weapons systems. The interrelations between AI (blue cluster), IHL, and autonomous weapons systems (green cluster) were dominantly discussed among the three clusters of all keywords. Since 2020 discussions concerning autonomous weapons systems and IHL ruled the article in the international journals. For example, Kurosaki analyzed the autonomous weapons systems and the proportionality test based on the laws of armed conflict, which is not deny the role of humans (Kurosaki, 2020). This issue has been discussed and proposed by the need to preserve the human element or meaningful human control over all weapons systems (Daniele Amoroso, 2021), while Kwik offered more loosely requirements on meaningful human involvement in the decision-making process concerning the point of activation (Kwik, 2022). This topic was followed, among others by Kalpouzos who argued that society had to turn to a philosophical critique of AI (Kalpouzos, 2020). A year later, it seems that Galliot tried to implement the principles of ethics in military AI to guarantee that autonomous weapons cannot be used for blatant violations of the laws of war, but as a high-level framework of ethics and legal concerns (Galliot, 2021). Winter had already discussed the compatibility of autonomous weapons with the principle of distinction and concluded that the use of autonomous weapons based on technology development would be incompatible with the principle of distinction under IHL and would be unlawful (Winter, 2022). Accepting that AI including autonomous weapons is inevitable, Pacholska proposed that military AI, if ever used, should be considered as state agents to enforce the principle of state responsibility (Pacholska, 2023). Another proposal was issued by Zurek, Kwik, and Engers, by proposing a model of a military autonomous device developed with the goals to identify and elaborate the functionalities for AI-driven systems to conform to IHL (Tomas Zurek, Jonathan Kwik, 2023).

2.1.2. Co-citation analysis

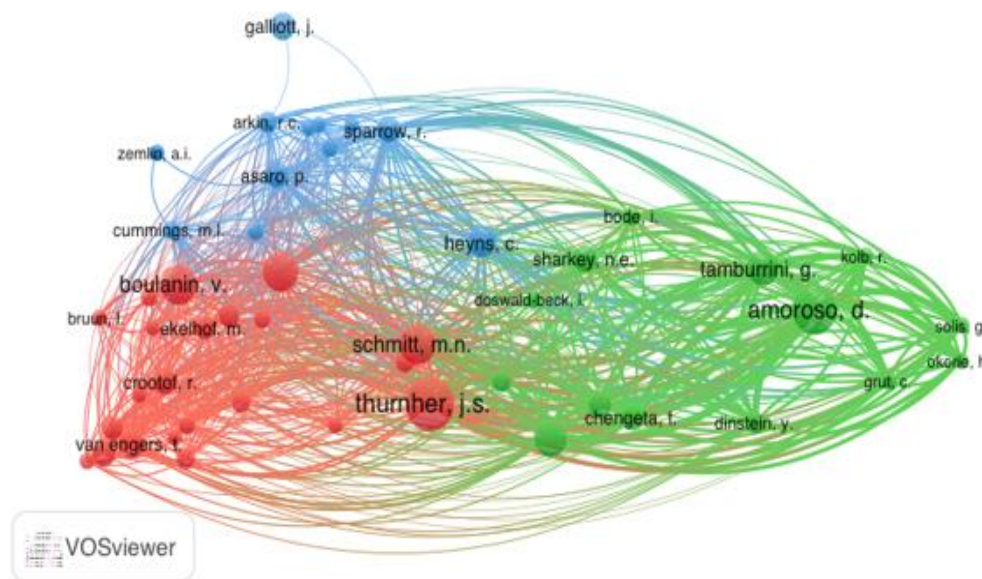


Figure 2. Network Visualization of the Co-citation Analysis

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The network visualization of co-citation as shown in **Figure 2**, describes the cited authors by the scholars. Of 48 experts that have been cited, Jeffrey S Thurnher has been the most frequently cited expert due to many publications since the previous decade. His analysis of whether the use of autonomous weapons during hostilities might be prohibited in particular circumstances under IHL (Thurnher, 2014) become a trigger for subsequent discussion. Thurnher later discussed the unique challenges concerning weapons law and targeting law principles, especially targeting doubt and subjectivity as the key aspects of targeting. He then concluded that autonomous weapon systems are unlikely to be deemed unlawful *per se* and will also be lawful under many circumstances (Jeffrey S Thurnher, 2016). Even so, Thurnher was still discussing the lawfulness of using autonomous weapons under IHL (Jeffrey S Thurnher, 2017). The second most frequently cited expert was Michael N Schmitt. Schmitt contributes a lot to cyber operations and cyber warfare (Michael N. Schmitt et.al., 2017; Schmitt, 2013), in this study many of his publications were cited as well by scholars. Both experts have military backgrounds, so it is not surprising that on some important points such the targeting issue, their opinions are widely cited.

Other experts such as Louise Doswald-Beck and Yoram Dinstein (Dinstein, 2018) as the experts from the International Committee of the Red Cross (ICRC) give a positive correlation between AI and IHL, especially the element of customary international (humanitarian) law of distinction principle and the principle of proportionality that should be wisely considered in the situation where AI applied into military context.

2.1.3. Co-authorship analysis

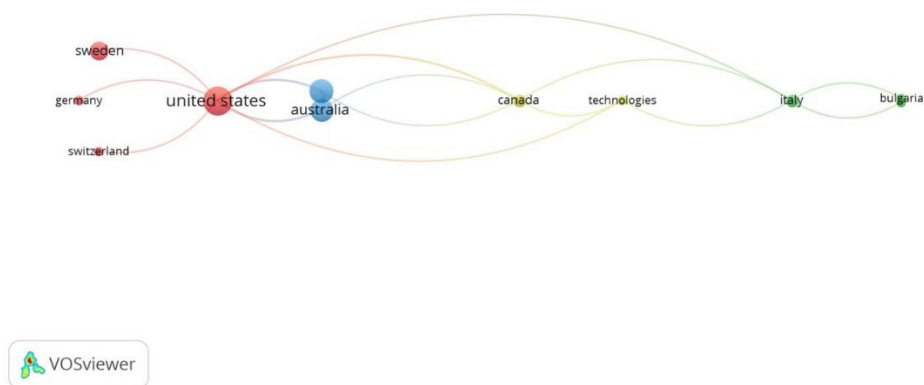


Figure 3. Network Visualization of the Co-authorship Analysis

We used co-authorship as the third type of analysis with the focus on countries as unit of analysis in the Vosviewer software. The results shows that the research analyzed in this study mainly came from the United States, followed by the United Kingdom and Australia as shown in **Figure 3**.

2.2. Literature Review

Based on the generated documents, there are basic principles that need to be analyzed from the perspective of the use of AI in the military context.

As a normative legal framework, international humanitarian law governs that the High Contracting Parties must uphold the distinction principle to protect the civilians and its object during an armed conflict (Fleck, 2021, p. 82). This principle mandates the conflicting parties to distinguish civilian objects from military objects based on Article 82 of Additional Protocol I (Doswald-Beck, 2009, p. Rule 7; ICTY, 2000, p. para.29). To elaborate further, the aerial bombardment is one of the exact attacks that constitute an indiscriminate attack which may be triggering the violation of the distinction principle (ICTY, 1996, para. 524; International Court of Justice, 1996, para. 78).

It also applies in the context of autonomous lethal weapons, the user must ensure that the artificial intelligence weapons are capable of distinguishing the legitimate military objective and civilian object (Pacholska, 2023, p. 10). However, there is an issue when the weapons got a system error that turns to indiscriminate attack on any object including the civilians. The key question here is whether the mistake of fact concept can preclude the state's responsibility under international law.

According to the International Law Commission Draft Articles on State Responsibility, the Commission was not taken into account that concept as the notion of precluding state wrongfulness (ILC, n.d., p. Art. 20-27). Similarly, the International Court of Justice has not recognized this concept as the exception of IHL violation in any manner (ICJ, 2003, para. 73).

On the other hand, several international tribunals such as the International Criminal Tribunal for the Former Yugoslavia ("ICTY") (ICTY, 2000, paras. 62, 85) and the European Court of Human Rights (*McCann and Others v. The United Kingdom*, App. No. 18984/91 ECtHR, 1995, para. 200) are given some discretion to allow the mistake of fact concept as a way to preclude states' responsibility. The Tribunals are given two conditions that must be met. *first*, it must be honest, *Second*, it must be reasonable (Milanovic, 2020). In the *NATO Bombing* case, the ICTY held that the bombardment over the Chinese Embassy waive the NATO liability towards the casualties. This is because NATO was expressly justified the attack as a mistake due to failed identification of an object, thus the Prosecutor declined to prosecute the attack thereof which not regarded as a violation of international humanitarian law (Milanovic, 2020).

Indeed there is a debate in scholars' thought, some scholar holds the objective terms of the distinction principle cannot be negated in the grave breach violation as long it occurred by the intention of the perpetrator (Pacholska, 2023, p. 14). According to Pacholska, if all feasible precaution is already been taken before an attack which obtained that the target is a legitimate military objective, and as a result the status of the object is a civilian object or there are civilian casualties, the honest and reasonable may waive the responsibility of the attacking party, which has no violate IHL (Pacholska, 2023, pp. 15–17).

In regards to the proportionality principle, this prohibits the High Contracting Parties to attack as expected to cause incidental civilian life, and damage to civilian objects which can be excessive to the direct and concrete military advantages based in the Additional Protocol I Article 51[5][b], 57[2][a][ii], and Article 57[2][b]. In the positive lens, such an attack will comply with this principle when it results from the more military advantage in a legitimate way rather than collateral damage between the conflicting parties (Winter, 2022, p. 16)

Proportionality as the fundamental principle also applies to the usage of LAWs. However, in this prong, there is a different assessment to know whether the LAWs in such an attack are proportional (Winter, 2022, p. 16). It is quite difficult to assess the proportionality test towards the LAWs in IHL. According to Winter, there is an example of this test: there is a method called collateral damage estimation methodologies (CDEMs). In that regard, the United States has five steps under the CDEM

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mechanism, *inter alia* the affected area caused by an attack, and the impact of timing on the degree of civilian casualties (Winter, 2022). It may be concluded that the proportionality test for LAWs is conceptually the same as the traditional proportionality determination on such an attack. For example, when an attack causes excessive damage or casualties to civilians or objects. Conclusively, the system technology of LAWs may not be underestimated, since there is no guarantee that the artificial intelligence contained within the LAWs cannot be used to identify the legitimate military objective or even assess the status of combatants or civilians.

Additionally, the assessment of this principle must be taken on a case-by-case basis and cannot be generalized as to whether international humanitarian law allows the usage of LAWs under the principle of proportionality.

To sum up, international humanitarian law must ensure that lethal autonomous weapons (LAWs) have not been used as a tool for justification in any condition, even when the system is in error. As the technology might be failing or malfunctioning it logically has a great potential to cause an issue which contrary to the fundamental principle of international humanitarian law (Pacholska, 2023, pp. 22–23; UNHCR, 2021, para. 23).

CONCLUSION

The finding of this study indicates that while AI technologies have the potential to significantly enhance military operations of various types, their integration into military contexts must be guided by legal considerations under IHL followed by a meaningful human element.

LIMITATIONS

We are aware that this study is limited by the determination of certain keywords and the duration of publication of article journals which may not reflect the true picture of the use of AI and the applicability of IHL.

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