Factors affecting the share price of Electronic Data Processing (EDP) services companies: Evidence from USA

Simon RAFAQAT 1+

(+ Corresponding author) simondavid19934@gmail.com +92 340 6197969

1 Affiliation: Forman Christian College (A Chartered University)
1 Address: Zahoor Elahi Rd, Gulberg III, Lahore, Punjab 54600 Pakistan https://orcid.org/0000-0001-5921-102X

Sana RAFAQAT 2

sana.rafaqat44@gmail.com

2 Affiliation: Lahore College for Women University

2 Address: G8VG+FR6, near Wapda Flats, Jubilee Town, Lahore, Punjab 54000 Pakistan https://orcid.org/0000-0002-8043-9667

Sahil RAFAQAT 2

sahilrafaqat1993@gmail.com +92 349 1472572

3 Affiliation: Forman Christian College (A Chartered University)
3 Address: Zahoor Elahi Rd, Gulberg III, Lahore, Punjab 54600 Pakistan https://orcid.org/0000-0002-2589-224X

Saoul RAFAQAT 3

saoulrafaqat1997@gmail.com +92 316 4914732

4 Affiliation: Forman Christian College (A Chartered University)
4 Address: Zahoor Elahi Rd, Gulberg III, Lahore, Punjab 54600 Pakistan https://orcid.org/0000-0001-6565-2040

Dawood RAFAQAT 4

dawood.rafaqat1999@gmail.com +92 320 8461637

5 Affiliation: Forman Christian College (A Chartered University)
5 Address: Zahoor Elahi Rd, Gulberg III, Lahore, Punjab 54600 Pakistan https://orcid.org/0000-0002-2986-1539

Abstract

Purpose - The objective of this study is to examine the influence of key factors on the stock price of medium-sized Electronic Data Processing (EDP) services companies listed on the NASDAQ stock exchange, with a focus on the period from 2016 to 2020.

Method - The authors utilized statistical techniques, including Pearson Correlations, and Multiple regression analysis. They also employed ratio analysis to examine the financial ratios of the EDP services companies. These factors included company size, return on equity, assets turnover ratio, current ratio, net profit margin, debt-equity ratio, return on assets, earnings per share, and operating cash flow ratio.

Results - The multiple regression analysis showed that the assets turnover ratio and firm size had a significant negative impact on the share price, while earnings per share had a significant positive impact. The debt-equity ratio had a positive but insignificant effect, and the current ratio, net profit

margin, return on assets, return on equity, and operating cash flow ratio had a negative but insignificant impact. The R square value indicated that 59 percent of the share price variation was influenced by the selected fundamental factors, and the ANOVA analysis confirmed their collective significant impact on the share price.

Originality/ Relevance - The paper's original contribution is its focused investigation of EDP services companies in the USA and their share price determinants. By examining the factors that influence share prices in this industry, the paper enhances our understanding of the drivers of stock performance in the EDP services sector.

Keywords -- NASDAQ, EDP services firms, Technology Company, return on assets, Return on equity, Earnings per share

Facteurs fondamentaux affectant le cours de l'action des sociétés de services de traitement électronique des données (EDP)

Résumé

Objectif - L'objectif de cette étude est d'examiner l'influence des facteurs clés sur le cours de l'action des sociétés de services informatiques (EDP) de taille moyenne cotées à la bourse NASDAQ, en mettant l'accent sur la période de 2016 à 2020.

Méthode - Les auteurs ont utilisé diverses techniques statistiques, notamment les corrélations de Pearson et l'analyse de régression multiple. Ils ont également utilisé l'analyse des ratios pour examiner les ratios financiers des sociétés de services informatiques. Ces facteurs comprenaient la taille de l'entreprise, le rendement des capitaux propres, le taux de rotation des actifs, le ratio actuel, la marge bénéficiaire nette, le ratio d'endettement, le rendement des actifs, le bénéfice par action et le ratio de flux de trésorerie d'exploitation.

Résultats - L'analyse de régression multiple a montré que le taux de rotation des actifs et la taille de l'entreprise avaient un impact négatif significatif sur le cours de l'action, tandis que le bénéfice par action avait un impact positif significatif. Le ratio d'endettement a eu un effet positif mais non significatif, et le ratio actuel, la marge bénéficiaire nette, le rendement des actifs, le rendement des capitaux propres et le ratio de flux de trésorerie d'exploitation ont eu un impact négatif mais non significatif. La valeur R au carré indiquait que 59 % de la variation du cours de l'action était influencée par les facteurs fondamentaux sélectionnés, et l'analyse ANOVA a confirmé leur impact significatif collectif sur le cours de l'action.

Originalité/pertinence - La contribution originale du document est son enquête ciblée sur les sociétés de services informatiques aux États-Unis et leurs déterminants du cours des actions. En examinant les facteurs qui influencent les cours des actions dans cette industrie, le document améliore notre compréhension des moteurs de la performance des actions dans le secteur des services informatiques.

Mots-clés -- NASDAQ, Entreprises de services informatiques, Entreprise technologique, Rendement des actifs, Rendement des capitaux propres, Bénéfice par action

1 Introduction

The growing reliance on EDP (electronic data processing) systems within contemporary businesses have been increasing (Liang et al 2001). Technology companies like Microsoft, Apple, Dell, Intel, and Gateway have significant potential to create jobs and drive economic progress. They do so by translating scientific knowledge into commercial products and processes, thereby playing a crucial role in overall development (Hogan and Hutson, 2005). Companies engaged in EDP (electronic data processing) and telecommunication are significantly more involved in research and development (R&D) (Hipp and Grupp, 2005). Modern corporations heavily depend on advanced EDP (electronic data processing) systems to handle their everyday business activities and vital financial data, as they strive to confront the challenge of intense global competition (Liang et al 2001, Williamson 1997). The primary domain of electronic data processing (EDP) is the execution and facilitation of business operations in commercial enterprises (Scheer, 2013). For example, electronic data processing is employed to keep inventory stock up-to-date, process banking transactions related to account and customer files, manage bookings and ticketing for an airline's reservation system, and facilitate billing for utility services (Hariyanto, 2012). The utilization of electronic data processing (EDP) has been demonstrated in various contexts such as enhancing accounting accuracy (Avisah, 2022), improving manufacturing alternatives (Klocke et al 2000), boosting the effectiveness of computer-assisted auditing techniques (CAATs) (Liang et al 2001, Shaikh 2005), implementing in the banking industry (Purba, 2008), and in research and development (Hipp and Grupp, 2005), as well as in agricultural (Shinghal et al 2011) and livestock farming applications (Groher et al 2020), among others. Bank of America's research, as cited by Klebnikov (2020), revealed that the market capitalization of US tech stocks now exceeds that of the entire European market, with the S&P 500 growing by 200% in the past decade while the Euro Stoxx 50 and FTSE 100 (UK) saw only around 13% and 11% growth, respectively. In particular, according to NASDAQ, the combined market capitalization of publicly listed companies in the EDP services industry in the US is estimated to be around \$766 billion (Stock Screener, 2023).

The stock market enables economic advancement by promoting capital formation and sustainable growth. It acts as an intermediary between savers and users of capital, pooling funds, sharing risks, and transferring wealth. Its role in promoting economic growth is critical, as it directs resources to the most productive investment opportunities. Stock prices in stock markets change daily, with some stocks appreciating every morning during specific times of the year. These price movements are determined by the forces of supply and demand, and predicting them is not foolproof. However, factors like company fundamentals, external factors, and market behavior can affect the demand and supply of stock, causing price fluctuations (Al-Tamimi et al 2011, Mazumder 2015, Wong and Zhou 2011). Sharma (2011) identified two approaches for predicting share prices: fundamental and technical. The fundamental approach considers financial, environmental, and managerial factors, while the technical approach analyses past trends to predict future prices. Therefore, investors should be familiar with both methods and relevant factors. The technology industry is consistently popular among investors due to its history of generating high returns and the possibility of future growth. As a result, investors closely monitor this sector, and it can be beneficial to keep an eye on technology stocks and those that have shown strong performance (Royal, 2023).

The boom in the stock values makes it significant to discuss the determinants of the share price of these companies as investors can benefit greatly from understanding how different fundamental factors affect stock prices, as this knowledge can guide them in making profitable investment decisions (Srinivasan, 2012). This study analyzes the influence of the internal fundamental factors on the share price of the selected EDP services companies. Although there are many studies that have been conducted to analyze the impact of these factors on stock price, no conclusive shreds of evidence, as per previous literature, are available on which ratio has a positive impact and which one has a negative influence or no impact on the share price. For example, earnings per share have a positive impact (Hutauruk and Ghozali, 2020), while it has no impact on share price (Nautiyal and Kavidayal, 2018), return on equity has a positive influence (Sharif et al 2015, Nguyen 2014) while it has no effect (Nautiyal and Kavidayal, 2018), return on the asset has a positive (Al Qaisi et al 2016), on contrary, it

has a negative impact (Saleh 2015), Debt to Equity Ratio has no impact (Asmirantho and Somantri, 2017), whereas, it has a positive impact (Julianto and Syafarudin, 2019), and the current ratio has a positive (Gursida, 2017), conversely, it has a negative impact (Julianto and Syafarudin, 2019) and has no impact on share price (Asmirantho and Somantri, 2017), etc.

Therefore, this study aims to conduct a ratio-wise analysis to identify which of the selected variables has a positive, negative, or no impact on the share price. In addition to examining whether this influence is significant or insignificant. Also, to examine whether the results of the current study correspond or not to the results of previous technology stock studies that have used the same variables as this study. Many technology stock studies are available analyzing the factors affecting share price (Antoniadis et al 2015) but no one has focused particularly on EDP services companies, in the USA, which are related to the field of big data that has a significant impact on various areas such as healthcare, e-commerce, marketing, logistics, transport, smart cities, environment, and well-being, this field of study is gaining momentum as a major area of focus (Blair et al 2019a, b).

The current study adds knowledge to the existing literature on share price performance studies. Long-term investors can benefit from comprehending the potential and capability of leading EDP services firms and leverage this understanding to make investment decisions. It can also help companies understand how their shares are being perceived in the market and make decisions on how to improve their financial performance and increase their stock value. In addition, share price research can provide valuable information to policymakers, and analysts in understanding market trends and making informed decisions. Therefore, studying share prices is an important aspect of financial analysis and decision-making for various stakeholders in the market.

The following section consists of a literature review, followed by the methodology section; the second last is results and discussion; and finally, concludes.

2. Literature review

There are numerous studies conducted to analyze the impact of fundamental ratios on the stock price of the companies because this plays a vital role in assisting the investment decision for the investors. Using Panel Data Regression Analysis, **Medyawati and Yunanto (2020)** explained that earnings per share were found to have a statistically significant impact on the share price of food and beverage manufacturing companies listed on the Indonesian stock exchange during the period from 2012 to 2018. Moreover, **Hutauruk and Ghozali (2020)** applied linear regression analysis and stressed that return on assets and return on equity and earning per share had a positive and significant impact on the share price of the Indonesian stock exchange-listed cigarette manufacturing companies between 2012 and 2018. Similarly, earning per share has a strong positive relationship with the share price (Almumani 2014, Chughta et al 2014, Sharma and Singh 2006). On the contrary, Nautiyal and Kavidayal (2018) explained that earnings per share price did not show any link to the movement in the share price of the 30 companies listed on the National stock exchange. Similarly, (Andikasari and Sugiyono, 2018) earnings per share had an insignificant effect on Indonesia Stock Exchange-listed companies.

Another study conducted on Bahrain Stock Exchange-listed companies revealed that return on equity, price-earnings, and dividend per share also positively and significantly related to the share price of companies relating to services, tourism, Insurance companies, Investment services, Industrial sector, and Commercial Banks (Sharif et al 2015, Nguyen 2014). Similarly, Andikasari and Sugiyono (2018) used multiple linear regressions and concluded that the return on equity and the size of the company had a statistically significant effect. In contrast, Nautiyal and Kavidayal (2018) found that the share price of the pharmaceutical companies was not influenced by the fundamental factors, including return on equity, dividend per share, fixed asset to total asset, return on assets, and earning per share.

Al Qaisi et al. (2016) proposed that the return on assets and size of the firm has an impact on share price while the return on equity did not show any relationship with the market stock price of Amman Stock Exchange-listed insurance companies. Saleh (2015) opposed that return on assets and net profit margin have a negative relationship with the share price whereas the return on equity has a small positive influence on the share price of the companies in the oil and gas sector of Pakistan.

Chasmi and Fadaee (2016) revealed that return on assets and size have a positive relationship with share price while return on equity and earning per share have a negative association with the share price of the companies listed on the Tehran Stock Exchange.

Arslan et al. (2014) concluded that the size of the company had a significant positive impact on the share price of the 111 non-financial Karachi stock exchange-listed companies. Macharia and Gatuhi (2013) explored that bank size, net advances, liabilities, customer deposit, and profit before tax collectively have a significant influence share price of commercial banks in Kenya. Moreover, Nazir et al (2010) proved that firm size has a positive significant relationship with share price while earning volatility was found to have a positive insignificant influence on the share price of 73 Karachi Stock Exchange-listed firms.

Ozlen (2014) used fundamental ratios including Total Asset Turnover Ratio, Price to Earnings Ratio, Debt Ratio, Net Profit Margin, Current Ratio, and Book Value, and it was concluded that these determinants had different effects on companies' share prices in different sectors. Furthermore, Gautam (2017) proposed that the growth of assets, earning price ratio, and book-to-market have a negative relation with the share price of Nepalese Commercial Banks. Moreover, the bank and non-bank-listed Chinese_firms were significantly and positively affected by the total asset turnover rate shown by regression models (Jiang et al 2019). Also, Alam et al. (2016) selected seven cement companies listed on the Dhaka Stock Exchange and found that net asset value per share, price earnings ratio, and earning per share proved to be significantly instrumental in explaining the share price of the experimented companies.

Employing the ordinary least squares method **Milošević-Avdalović (2018)** found that book value per share, firm size, and returns on assets can be used to explain the share price because these variables have a positive impact on the share price of insurances firms listed on the Belgrade Stock Exchange. Similarly, **Al-Malkawi et al. (2018)** found that book value per share, dividend per share, earnings per share, return on equity, and price-earnings ratio positively affect market share price whereas the size of the company poses a statistically significant impact on the market share price of the 277 companies listed in the Middle East and North Africa regions. **Dang and Tran (2018)** explained that cash flow from operating activities, earnings per share, firm size, and book value are noticed to have a positive association with the market share price of Vietnam Stock Exchange-listed companies. These four factors have a combined influence of 48.1% on the share price. **Adebisi and Lawal (2015)** surveyed the literature and explained that the size of the firm, book value per share, Dividend per share, dividend payout, earning per share, and price-earnings ratio are the significant factors impacting the share price.

In addition, Asmirantho and Somantri (2017) also experimented that the Current Ratio, Debt to Equity Ratio, Total Assets Turnover, Earnings per Share, and Return on Equity were found to have no significant relationship while earning per share has a partially significant impact on the share price of Indonesia pharmaceutical companies. Moreover, Julianto and Syafarudin (2019) concluded the current ratio has a negative insignificant relationship while that the debt-equity ratio, return on asset and price-earnings ratio has a positive insignificant relationship with the share price of listed plastic and packaging companies in Indonesia. (Gursida, 2017) Another study proved that the current ratio, return on assets is positively and significantly related to the share price of public coal companies whereas, the debt-to-equity ratio, earning per share and total assets turnover has no impact on the share price of coal companies.

3. Methodology

Seventeen medium size technology companies listed on NASDAQ, shown in **table 1**, have been selected from the industry of electrical data processing Services to analyze the impact of fundamental factors on the share price. The market capitalization of these EDP services companies ranges from \$ 2 billion to \$ 10 billion as per the NASDAQ criteria. The data for the statistical analysis have been gathered from companies' websites, annual reports of the experimented companies, NASDAQ, and the U.S. Security and Exchange Commission website. The study time period comprises five years ranging from 2016 to 2020. Moreover, considering the nature of study, the ratio analysis method has

been applied to identify the influence of the selected nine variables on the share price of electrical data processing Service technology companies.

There are nine variables, displayed in **table 2**, including the size of the company, return on equity, assets turnover ratio, current ratio, net profit margin, debt equity ratio, return on assets, earning per share, and operating cash flow ratio, which have been selected for this study. Moreover, the statistical methods Pearson correlation, multiple regression analysis, heteroscedasticity, autocorrelation test, multicollinearity test, and normality test have been adopted to analyze the influence of nine independent variables on the share price of EDP Service technology companies.

Table 1 List of the selected companies

No.	Symbol	Name	Industry	No.	Symbol	Name	Industry	
1	AZPN	Aspen Technology Inc.	EDP Services	10	SPSC	SPS Commerce Inc.	EDP Services	
2	NSIT	Insight Enterprises Inc.	EDP Services	11	ZNGA	Zynga Inc.	EDP Services	
3	SYKE	Sykes Enterprises Inc	EDP Services	12	QLYS	Qualys Inc.	EDP Services	
4	EEFT	Euronet Worldwide Inc.	EDP Services	13	SABR	Sabre Corporation	EDP Services	
5	PRFT	Perficient Inc.	EDP Services	14	APPF	AppFolio Inc.	EDP Services	
6	STMP	Stamps.com Inc.	EDP Services	15	INOV	Inovalon Holdings Inc.	EDP Services	
7	LPSN	LivePerson Inc.	EDP Services	16	MIME	Mimecast Limited	EDP Services	
8	MANT	ManTech International Corp	EDP Services	17	NTNX	Nutanix Inc.	EDD Comisos	
9	VRNT	Verint Systems Inc.	EDP Services	17	INTINX	inutaliix iiic.	EDP Services	

Table 2 List of the selected dependent and independent variables

Parameters	Variables	Code	Description
Share price	Share price	SP	
Liquidity	Current Ratio	CR	Current Assets / Current Liabilities
Leverage	Debt Equity Ratio	DER	Total Liability / Total Shareholders' Equity
Efficiency	Assets Turnover Ratio	ATR	Net Sales / Average Total Assets
	Net Profit Margin	NPM	Net Income / Net Sales
Drofitability	Return On Assets	ROA	Operating Income / Average Total Assets
Profitability	Return On Equity	ROE	Net Income / Average Total Shareholders' Equity
	Earnings Per Share	EPS	Net Income / Outstanding Shares
Cash Flow	Operating Cash Flow Cash Flow Ratio OCFR Operating Cash Flow / Current Lia		Operating Cash Flow / Current Liabilities
Size	Firm Size	FS	Log (Total asset)

Source: Williams (2008).



Source: Author Figure 1: Dependent and Independent variables

4. Results and discussion

This section represents the results of the Pearson Correlations coefficient, Multicollinearity Test, Autocorrelation test, ANOVA, Multiple regression analysis, Normality test, and Heteroscedasticity Test. Also, it leads to the explanation and interpretation of the said statistical study models.

Table 3: Pearson Correlations coefficient

Correlations										
Variables	SP	CR	DER	ATR	NPM	ROA	ROE	OCFR	EPS	soc
Share Price	1.000									
Current Ratio	-0.058	1.000								
Debt Equity Ratio	-0.125	-0.051	1.000							
Assets Turnover Ratio	0.028	-0.182	-0.170	1.000						
Net Profit Margin	.526**	0.023	375**	0.074	1.000					
Return on Assets	.370**	-0.071	216*	0.141	.763**	1.000				
Return on Equity	0.084	0.017	225*	-0.093	.220*	.233*	1.000			
Operating Cash Flow Ratio	.419**	.399**	299**	-0.163	.681**	.404**	0.148	1.000		
Earnings Per Share	.736**	-0.056	-0.182	.225*	.727**	.586**	0.184	.532**	1.000	
Firm Size	-0.021	-0.203	.438**	-0.111	-0.174	-0.089	0.055	279**	0.106	1.000

Source: SPSS Output ** Correlation is significant at the 0.01 level (2-tailed) * Correlation is significant at the 0.05 level (2-tailed)

The table 3 indicates the results of the Pearson correlation coefficient between the predictors and the share price of the selected companies. The **current ratio** shows that there is a negative relationship between the share price and the current ratio, which means that an increase in current ratio will decrease the share price. Similarly, it is found that **debt-equity ratio** is negatively related to the share price indicating a rise in debt-equity ratio will cause a decrease in the share price. However, the **assets turnover ratio** shows a positive association with share price identifying the higher the assets turnover ratio, the higher will be the share price. Moreover, the **net profit margin** was found to have a positive significant relationship with a share price which suggests that an enhancement in net profit margin will give rise to the share price. In the same way, the **return on assets** is exhibiting a positive significant relationship with the share price, which means an increase in return on assets will cause an increase in the share price.

In comparison, the **return on equity** is showing an insignificant positive link with the share price suggesting that if the return on equity increases, then the share price will increase. Furthermore,

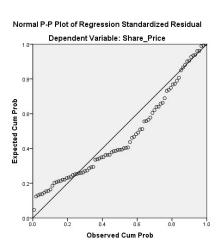
the **operating cash flow ratio** is significantly and positively related to the share price indicating the higher the operating cash flow ratio, the higher will be the share price. Similarly, **earning per share** is found to have a positive and significant relationship with share price, indicating a rise in earnings per share will cause an increase in share price. However, **firm size** is showing a negative association with share price and an enhancement in firm size will cause the share price to rise.

Table 4: Multicollinearity Test

Collinearity Statistics										
Variables CR DER ATR NPM ROA ROE OCFR EPS SOC Mean Value							Mean Value			
Tolerance	0.701	0.65	0.72	0.189	0.377	0.861	0.308	0.336	0.621	0.529222
VIF	1.427	1.539	1.389	5.302	2.656	1.162	3.244	2.976	1.61	2.367222

Source: SPSS Output

Table 4 shows the results of the Multicollinearity Test for the nine selected variables. It can be interpreted from the above statistical results that no Multicollinearity has been found among variables because the mean value of tolerance is **0.529222**, which is higher than **0.10**, and the mean value of Variance Inflation Factor (VIF) is **2.367222**, which is the less than **10**.



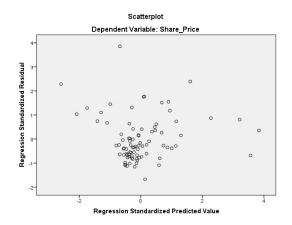


Figure-2. Normality test

Figure-3. Heteroscedasticity Test

The normal probability plot, displayed in Figure 2, indicates that the dots are moving along the diagonal line and are showing around this line. There, a normal probability plot shows that the data is normally distributed and meets the assumption of the regression model.

The scatter plot, in Figure 3, indicates that dots are being shown randomly in the above graph and it can be observed that dots are appearing above and below the zero number of the residual regression axis. Moreover, these dots are not forming any particular shape or pattern which means that the study model does not have Heteroscedasticity. Therefore, the regression model has fulfilled the assumption.

Table 5: Autocorrelation test

	Model Summary b									
	Adjusted R									
Model	R	R Square	Square	Std. Error of the Estimate	Durbin-Watson					
1	.774a	0.598	0.55	29.93024	1.164					

Source: SPSS Output

Table 5 is displaying the results of autocorrelation in which the value of the Durbin-Watson test is 1.164, the standard error of the estimated value is 29.93024, the Adjusted R Square value is 0.55, R Square is 0.598, and the R value is 0.774.

In the above table, R square value is indicating that the share price has been impacted 59.8% by the nine selected predictor variables and the remaining 40.2% has been influenced by the other factors. Moreover, table 6 shows that the autocorrelation problem does not exist in the resulting model because the value of the Durbin-Watson test is 1.164, which is between -2 and 2 (Perdana and Adriana, 2018).

Table 6: ANOVA Results

ANOVA a										
Model Sum of Squares df Mean Square F Sig.										
1	Regression	100142.806	9	11126.978	12.421	.000b				
	Residual	67186.461	75	895.819						
	Total	167329.267	84							

Source: SPSS Output

The ANOVA results explain the collective impact of independent variables on the dependent variable. In table 6, the ANOVA results indicate that the F value is 12.421 and the p-value is 0.000, explaining statistically significant impact of independent variables on the share price of the selected technology companies. In other words, Predictors variables, size of the company, return on equity, assets turnover ratio, current ratio, net profit margin, debt equity ratio, return on assets, earning per share, and operating cash flow ratio, found to have combined significant influence on the share price.

Table 7: Multiple regression analysis

Regression Results									
Variables		dardized icients	Standardized Coefficients						
	В	Std. Error	Beta	t	Sig.				
(Constant)	233.597	86.977		2.686	0.009				
Current Ratio	-1.788	2.496	-0.063	-0.716	0.476				
Debt Equity Ratio	0.530	1.523	0.032	0.348	0.729				
Assets Turnover Ratio	-27.082	11.313	-0.206	-2.394	0.019				
Net Profit Margin	-1.882	35.143	-0.009	-0.054	0.957				
Return on Assets	-38.328	41.150	-0.111	-0.931	0.355				
Return on Equity	-1.379	2.250	-0.048	-0.613	0.542				
Operating Cash Flow Ratio	-6.608	13.102	-0.066	-0.504	0.615				
Earnings Per Share	17.034	2.333	0.921	7.300	0.000				
Firm Size	-19.667	9.359	-0.195	-2.101	0.039				

Source: SPSS Output

Table 8 displays the results of multiple regression analysis of the nine predictor variables and dependent variables. The Multiple regression analysis results indicate that the current ratio has a negative insignificant relationship with the share price showing a unit rise in the current ratio will decrease the share price by 0.716 assuming other independent variables are constant. In the same way, Julianto and Syafarudin (2019) concluded that the current ratio has a negatively insignificant

impact on the share price. Conversely, the **debt-equity ratio** was found to have a positive insignificant association with share price suggesting a unit enhancement in the debt-equity ratio will cause an increase of 0.348 percent in the share price considering the rest of the independent variables constant. Also, previous studies did not find a significant relationship with share price (**Asmirantho and Somantri 2017**, **Julianto and Syafarudin 2019**, **Gursida 2017**)

Moreover, the **assets turnover ratio** is negatively significantly related to the share price meaning a unit increase in the assets turnover ratio will decrease the share price by 2.394 percent, keeping all of the predictor variables at zero. Similarly, the **net profit margin** has a negative insignificant relationship with a share price which means if a unit of net profit rises, the share price will decrease by 0.009 percent considering all the independent factors constant. Also, the **return on assets** is noticed to have a negative insignificant association with the share price identifying a unit increment in return on assets will cause a 0.111 percent decline in share price keeping the rest of the variables at zero. The result is similar to the findings of the study conducted by **Saleh (2015).**

Furthermore, the **return on equity** is negatively insignificantly related to the share price indicating that a unit enhancement in the return on equity will drop the share price by 0.048 percent while all the predictor variables are constant. Similarly, the return on equity did not have an impact on the share price (**Nautiyal and Kavidayal, 2018**). In contrast, the return on equity is significantly related to the share price (**Andikasari and Sugiyono, 2018**). In addition, the **operating cash flow ratio** has a negative relationship with share price showing a unit increase in the operating cash flow ratio will decrease the share price by 0.066 percent with the assumption to have independent variables at zero.

However, the **earning per share** is found to have a positive significant relationship with share price suggesting a unit rise in earnings per share enhances the share price by 0.921 while keeping all the predictor variables constant. Similarly, earning per share has a positive significant impact **(Almumani 2014, Chughta et al 2014, Sharma and Singh 2006).**

Conversely, the **firm size** is negatively significantly associated with the share price revealing that a unit increment will decline the share price by 0.195 assuming the rest of the independent variables are zero. Also, the firm size is negatively related to the share price **(Saleh, 2015).** In addition, **Andikasari and Sugiyono (2018)** also found that there is a significant relationship with the share price.

5. Conclusion

The paper examines the influence of fundamental factors on the share price of medium-sized EDP services technology companies quoted on NASDAQ over the period ranging from 2016 to 2020. The empirical results of the study showed that the current ratio, net profit margin, return on assets, return on equity, and operating cash flow ratio has a negative insignificant effect while the debt-equity ratio has a positive insignificant impact on the share price of selected EDP services companies. However, results of multiple regression analysis also show that earning per share has a positive significant influence while the assets turnover ratio and firm size have a negative significant impact on the share price of experiment companies. In addition, the results illustrate that 59 percent of the share price is impacted by elected nine independent determinants, and according to the ANOVA test these factors have a significant combined impact. In conclusion, the study showed mixed results, however, the nine fundamental factors collectively have an impact on the share price of the EDP services companies.

References:

- Adebisi, O. S., & Lawal, K. O. (2015). Equity share price determinants: a survey of literature. *Arabian Journal of Business and Management Review (OMAN Chapter)*, 5(3), 38-44. Available at: 10.12816/0019112.
- Al Qaisi, F., Tahtamouni, A., & Al-Qudah, M. (2016). Factors affecting the market stock price-The case of the insurance companies listed in Amman Stock Exchange. *International Journal of Business and Social Science*, 7(10), 81-90.

Alam, S., Miah, M. R., & Karim, M. A. (2016). Analysis on factors that affect stock prices: A study on listed cement companies at Dhaka stock exchange. *Research Journal of Finance and Accounting*, 7(18) 93-113.

- Al-Malkawi, H. A. N., AlShiab, M. S., & Pillai, R. (2018). The impact of company fundamentals on common stock prices: Evidence from MENA region. *The Business & Management Review*, 9(4), 162-172.
- Almumani, M, (2014). Determinants of equity share prices of the listed banks in Amman stock exchange: quantitative approach. *International Journal of Business and Social Science*, 5(1),91-104.
- Al-Tamimi, H. A. H., Alwan, A. A., & Abdel Rahman, A. A. (2011). Factors affecting stock prices in the UAE financial markets. Journal of transnational management, 16(1), 3-19.
- Andikasari, R., & Sugiyono, S. (2018). Effect of return on equity, price earning ratio, earning per share, and firm size on stock prices. *Journal of Management Science and Research* (JIRM), 7(2), 2-17.
- Antoniadis, I., Gkasis, C., & Sormas, A. (2015). Insider trading and stock market prices in the Greek technology sector. Procedia Economics and Finance, 24, 60-67.
- Arslan, M., Zaman, R., & Phil, M. (2014). Impact of dividend yield and price earnings ratio on stock returns: A study non-financial listed firms of Pakistan. *Research Journal of Finance and Accounting*, 5(19), 68-74.
- Asmirantho, E., & Somantri, O. K. (2017). The effect of financial performance on stock price at pharmaceutical sub-sector company listed in Indonesia stock exchange. *Scientific Journal of Accounting, Faculty of Economics*, 3(2), 94-107. Available at: 10.34204/jiafe.v3i2.778
- Avisah, S. K. (2022). Analysis of the Application of Electronic Data Processing Sales Data Processing System Studies at PT. xyz. Economics And Business Management Journal (EBMJ), 1(03), 203-207.
- Blair G.S, Henrys P, Leeson A, Watkins J, Eastoe E, Jarvis S, & Young PJ (2019a). Data science of the natural environment: a research roadmap. Frontiers in Environmental Science, 7, 1-4
- Blair, G. S., Henrys, P., Leeson, A., Watkins, J., Eastoe, E., Jarvis, S., & Young, P. J. (2019b). Data science of the natural environment: a research roadmap. Frontiers in Environmental Science, 7, 121.
- Chasmi, N., & Fadaee, M. (2016). Impact of financial performance and growth opportunities on success or failure of companies: Evidence from Tehran stock exchange. *Journal of Accounting and Marketing, Science and Research Branch, Islamic Azad University, Mazandaran, Iran*, 5(2), 2-5.
- Chughtai, A. R., Azeem, A., & Ali, S. (2014). Determining the Impact of Dividends, Earnings, Invested Capital and Retained Earnings on Stock Prices in Pakistan: An Empirical Study. *International Journal of Financial Management*, 4(1), 74-81.
- Dang, N. H., & Tran, M. D. (2018). Investigation of the impact of financial information relevance on stock prices: The case of Vietnam. *Management and Accounting*, 22(2), 423-437.
- Gautam, R. (2017). Impact of firm specific variables on stock price volatility and stock returns of Nepalese commercial banks. *International Journal of Research in Business Studies and Management*, 4(6), 33-44. Available at: 10.5958/2319-1422.2017.00027.3.
- Groher, T., Heitkämper, K., & Umstätter, C. (2020). Digital technology adoption in livestock production with a special focus on ruminant farming. Animal, 14(11), 2404-2413.
- Gursida, H. (2017). The influence of fundamental and macroeconomic analysis on stock price. *Journal of Applied Management and Business*, 3(2), 222-234. Available at: http://dx.doi.org/10.26737/jtmb.v3i2.324.

- Haque, S., & Faruquee, M. (2013). Impact of fundamental factors on stock price: A case based approach on pharmaceutical companies listed with Dhaka stock exchange. *International Journal of Business and Management Invention*, 2(9), 34-41.
- Hariayanto, B. (2012). Pengertian EDP (Electronic Data Processing). http://www.bambanghariyanto.com/2012/09/pengertian-edp-electronic-data.html. Retrieved 9 April 2023
- Hipp, C., & Grupp, H. (2005). Innovation in the service sector: The demand for service-specific innovation measurement concepts and typologies. Research policy, 34(4), 517-535.
- Hogan, T., & Hutson, E. (2005). Capital structure in new technology-based firms: Evidence from the Irish software sector. *Global Finance Journal*, 15(3), 369-387. https://doi.org/10.1016/j.gfj.2004.12.001
- Hutauruk, M. R., & Ghozali, I. (2020). Overview of return on investment on cigarette companies registered in Indonesia stock exchange. *International Journal of Scientific and Technology Research*, 9(3), 4633-4637
- Issah, O., & Ngmenipuo, I. M. (2015). An empirical study of the relationship between profitability ratios and market share price of publicly traded banking financial institutions in Ghana. *International Journal of Economics, Commerce and Management*, 3(12), 27-42.
- Jiang Q., Wang X., Li Y., Wang D., & Huang Q. (2020), Financial Indicators and Stock Price Movements: The Evidence from the Finance of China", In Xu J., Ahmed S., Cooke F., Duca G. (eds) Proceedings of the Thirteenth International Conference on Management Science and Engineering Management. ICMSEM 2019. Advances in Intelligent Systems and Computing, vol 1002. Springer, Cham, pp. 743-758. https://doi.org/10.1007/978-3-030-21255-1_57
- Julianto, A. R., & Syafarudin, A. (2019), Stock return analysis and implications in company value (plastic and packaging companies listed in IDX). *International Journal of Engineering Technologies and Management Research*, 6(7), 101-118. Available at: https://doi.org/10.29121/ijetmr.v6.i7.2019.420.
- Klebnikov, S. (2020), U.S. Tech Stocks Are Now Worth More Than \$9 Trillion, Eclipsing The Entire European Stock Market. Available at:

 https://www.forbes.com/sites/sergeiklebnikov/2020/08/28/us-tech-stocks-are-now-worth-more-than-9-trillion-eclipsing-the-entire-european-stock-market/?sh=245159343e61
 (accessed 20 September 2021)
- Klocke, F., Fallböhmer, M., Kopner, A., & Trommer, G. (2000). Methods and tools supporting modular process design. Robotics and Computer-Integrated Manufacturing, 16(6), 411-423.
- Liang, D., Lin, F., & Wu, S. (2001). Electronically auditing EDP systems: With the support of emerging information technologies. International Journal of Accounting Information Systems, 2(2), 130-147.
- Macharia, P. I., & Gatuhi, S. K. (2013). Effect of financial performance indicators on market price of shares in commercial banks of Kenya. *International Journal of Management and Business Studies*, 3(3), 57-60.
- Mazumder, M. A. (2015). Stock Market and Economic Development in Bangladesh: A Case Study of Chittagong Stock Exchange. *Global Journal of Management and Business Research: C Finance*, 15(2), 44-54.
- Medyawati, H., & Yunanto, M. (2020). Determinant of Stock Price Manufacturing Company: Evidence From Indonesia. *Journal of Economics and Business*, 3(2), 524-535.
- Milošević-Avdalović, S. (2018). The impact of firm specific factors on the stock prices: Empirical evidence from Belgrade stock exchange. *Industry*, 46(2), 7-20. Available at: 10.5937/industrija46-15271.
- Nautiyal, N., & Kavidayal, P. C. (2018). Analysis of institutional factors affecting share prices: The case of national stock exchange. *Global Business Review*, 19(3), 707-721.

Nazir, M. S., Nawaz, M. M., Anwar, W., & Ahmed, F. (2010). Determinants of stock price volatility in Karachi stock exchange: The mediating role of corporate dividend policy. *International Research Journal of Finance and Economics*, 55(55), 100-107.

- Nguyen, T. T. D. (2014). The impacts of accounting information and financial indicators on stock price in Vietnam Stock Exchange. *Journal of Banking Technology*, 62(1), 23-27.

 Ozlen, S. (2014). The effect of company fundamentals on stock values. *European Researcher*, 3(2), 595-602.
- Perdana, M. K., & Adriana, C. H. (2018). Factors influencing the stock price of banking companies in the Indonesia stock exchange. *Journal of Accounting and Strategic Finance*, 1(1), 57-68. Available at: https://doi.org/10.33005/jasf.v1i01.26.
- Purba, J.F. (2008). Application of Electronic Data Processing (Edp) in the Transaction Process of Atm Pt (Persero) Medan Regional State Savings Bank (Doctoral dissertation, University of North Sumatra).
- Royal, J. (2023, April 1). Best Tech Stocks In April 2023 | Bankrate. Best Tech Stocks in April 2023 | Bankrate. Retrieved April 10, 2023, from https://www.bankrate.com/investing/best-performing-tech-stocks/
- Saleh, M. (2015). Relationship between firm's financial performance and stock returns: Evidence from oil and gas sector Pakistan. *Journal of Energy Technologies and Policy*, 5(10), 27–32.
- Scheer, A. W. (2013). Computer: a challenge for business administration. Springer.
- Shaikh, J. (2005). E-commerce impact: Emerging technology—Electronic auditing. Managerial Auditing Journal 20(4), 408–421.
- Sharif, T., Purohit, H., & Pillai, R. (2015). Analysis of factors affecting share prices: The case of Bahrain stock exchange. *International Journal of Economics and Finance*, 7(3), 207-216.
- Sharma, D. S. (2011). Determinants of Equity Share Prices in India. *Journal of Arts, Science & Commerce*, 2(4), 51-60
- Sharma, S., & Singh, B. (2006). Determinants of equity share prices in Indian corporate sector: An empirical study. *The ICFAI Journal of Applied Finance*, 12(4), 21-38.
- Shinghal, D., Noor, A., Srivastava, N., & Singh, R. (2011). Intelligent humidity sensor for-wireless sensor network agricultural application. International Journal of Wireless & Mobile Networks (IJWMN), 3(1), 118-128.
- Srinivasan, P. (2012). Determinants of equity share prices in India: A panel data approach. The Romanian Economic Journal, 46(6), 205-228.
- Stock Screener (2023). Stock Screener | Nasdaq. https://www.nasdaq.com/market-activity/stocks/screener. Retrieved 4 April 2023
- Wong, A., & Zhou, X. (2011). Development of financial market and economic growth: Review of Hong Kong, China, Japan, the United States and the United Kingdom. *International Journal of Economics and Finance*, 3(2), 111-115.
- Williams, J. R. (2008). Financial & managerial accounting: The basis for business decisions: McGraw-Hill/Irwin
- Zainudin, R., Mahdzan, N.S. and Yet, C.H. (2018). Dividend policy and stock price volatility of industrial products firms in Malaysia. *International Journal of Emerging Markets*, 13(1), 203-217.