

## **Impact of Financial Liquidity on the Profitability of Pharmaceutical Sector**

### **(A Case Study of Leading Pharmaceutical Companies in Pakistan)**

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#### **Abstract**

The research paper aims to explore the relationship between financial liquidity and profitability in the pharmaceutical sector in Pakistan. The study collected data from three different sources, including financial reports of five leading pharmaceutical companies, a survey with 100 respondents, and an interview with the Chief Financial Officer (CFO) of a leading pharmaceutical company. The data was analyzed using SPSS to calculate frequency distributions and average means. The results showed that there was a positive and significant impact of financial liquidity on profitability in the pharmaceutical sector in Pakistan, as indicated by the average mean of the survey responses being 0.95 and the findings from the interview with the CFO. These results suggest that having strong financial liquidity can have a positive impact on the profitability of the pharmaceutical companies in Pakistan.

**Keywords:** *financial liquidity, financial ratios, profitability, current ratio, pharmaceutical industry, ROA*

## **Introduction**

It is crucial to highlight the importance of financial statement analysis in business decision making is crucial in today's globalized and economically liberalized era. It is essential to keep up and make necessary changes for companies to maintain their existence in a competitive business environment. According to Ehiedu (2014) financial statement analysis involves examining the balance sheet and profit and loss account to determine the firm's financial strengths and weaknesses by identifying the relationship between various items. Therefore, financial statement analysis involves assessing a business's financial ability and stability by measuring key areas through financial ratios. Ibenta (2005) notes that financial ratios, are useful tools for financial statement analysis that help users gain insight into the company's future performance.

This study intends to evaluate the liquidity position of pharmaceutical companies in Pakistan and analyze its impact on their financial performance. Assessing a company's profitability and liquidity is crucial for its continuous survival and existence. Some authors have emphasized the importance of liquidity, stating that companies that have low or zero profitability can still serve the economy of the country , but firms that do not have any liquidity cannot serve the economy well.

The main basic research objective of this paper revolves around the investigation as to how the profitability of a company, in the Pharmaceutical sector is affected by various factors of financial liquidity. The previous studies on the factors affecting the profitability of firms have been done in various countries on various sectors. This research is based on the Pharmaceutical Industry of Pakistan with the recent data till 2021 from the firms listed in Pakistan Stock Exchange. This study comprises the micro economic variable of liquidity. This research aims to provide valuable information to the company level decision makers and the shareholders to make strategic decisions to improve the profitability of the firms in the pharmaceutical industry of Pakistan.

## **An Overview of Pharmaceutical Industry**

The emergence of the pharmaceutical industry can be traced back to the second half of the 19th century, when the concepts of experimentation from the scientific revolution were combined with the production of goods from the industrial revolution to advance human health. Although the industry gained significant momentum with the discoveries of insulin and penicillin in the early 20th century, its roots can be traced back to the late 1800s.

Today, "Big Pharma" generates over 50% of the pharmaceutical industry's sales and is dominated by companies headquartered in the US, UK, Switzerland, Germany, and France EFPIA (2022). Major pharmaceutical leaders include Johnson & Johnson, Abbott Laboratories, Bayer, GlaxoSmithKline, Pfizer, Merck, Novartis, and Sanofi, with Amgen and Genentech being the largest biotech companies. The global pharmaceutical market is worth 1.42 trillion US dollars as of end-2021 and has experienced significant growth from 2001, when it was valued at 390 billion US dollars Statista (2021). Pakistan's pharmaceutical sector has grown, with its value doubling from USD 1.64 billion to roughly USD 3.2 billion from 2011 to 2019. The Pakistani pharmaceutical sector has doubled to \$3.2 billion from 2011 to 2019, with growth in sales higher for national companies PBC (2019). It's a low-cost generic market with many new generic medicines launched at higher prices. There are about 650 companies in the market, with less than 30 being multinational. The industry contributes 1% to the GDP annually and relies heavily on imported raw materials due to a lack of focus on R&D by local companies PPMA (2020).

### **Problem Statement**

The worldwide pharmaceutical sector is evolving on a continuous basis to fulfil the demand in the market and it will continue its development in the coming future through research and development

(R&D). This development is measured by growth in terms of profitability. Companies focus on the profitability with various measure for their growth. The main basic research objective of this paper revolves around the investigation as to how the profitability of a company, in the Pharmaceutical sector is affected by the measure of financial liquidity.

## **Review of Literature**

Profitability is the ability of an organization to generate income, Hermanson & Edwards (2005). It has been studied in the field of accounting and finance in various countries. The literature for each country provides different evidence regarding the factors that affect the profitability of a country. According to Hifza Malik (2011), profitability is a vital component for determining the performance of the firm. It is an indicator of success and progress and reflects the sustainability of the company. In another study conducted by Nasrollah Amouzesh (2011), the relationship between actual growth rate, liquidity, and firm performance was investigated. The study's results showed a positive correlation between the actual growth rate with return on assets (ROA) and price to book ratio (P/B). However, there was no significant relation between the actual growth rate from sustainable growth rate and current and acid ratios. This study comprises the micro economic variable of liquidity.

No previous research used the same combination of these two variables to determine the profitability of the pharmaceutical sector of Pakistan. This research will fill in these gaps and provide valuable information to the company level decision makers and the shareholders to make strategic decisions to improve the profitability of the firms in the pharmaceutical industry of Pakistan.

## **Liquidity and Profitability**

Accounting liquidity refers to a company's ability to meet short-term obligations, which is essential for its continuous operation ,Shim and Siegel (2000). A liquidity ratio greater than 1 is considered normal, whereas a ratio below 1 indicates that the company may not have enough cash to meet its short-term obligations Morrel (2007). Generally, a high liquidity ratio is indicative of financial strength Chandra (2001). However, some research has suggested that excessively high liquidity ratios may signify mismanagement issues within the company Vieira (2010), as it may indicate that the company is not maximizing its profit potential by making inefficient use of its assets. The definition of liquidity varies among researchers. Maness and Zietlow (2005) identified three components that define liquidity, namely amount, time, and cost. Amount refers to the resources available to the company to fulfill its financial obligations, time denotes how long it takes to convert assets into cash, and cost considers the expenses involved in this process. In contrast, Campbell (2019) defined liquidity as "the ability of a firm to increase its future cash flows to meet any unforeseen needs or take advantage of any unexpected opportunities." High liquidity can improve financial management efficiency and overall financial performance Chandra (2001). While profitability influences the future development of a company, liquidity plays a crucial role in its survival and sustainability, as companies are more likely to default or face bankruptcy due to a lack of liquidity rather than a lack of profitability.

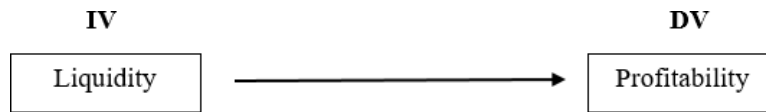
## **Hypothesis**

Now on the basis of the problems discussed above and data from previous literature this study will be conducted on the following hypotheses.

*H1: An increase in liquidity enhances the profitability (ROA) of Pharmaceutical sector in Pakistan.*

The relation of these variables will be studied with the financial ratios; current ratio and ROA as the determinants of liquidity and profitability respectively.

### **Structural Model**



### **Research Methodology**

This research aims to investigate the relationship between financial liquidity and profitability in the pharmaceutical sector of Pakistan. The research will use both primary and secondary sources of data. Primary data will be collected through a questionnaire filled out by employees in the finance department of 5 pharmaceutical companies, and an interview with the CFO of Wyeth Pharmaceutical company. A total of 100 responses from the questionnaire and insights from the CFO will be analyzed. Secondary data will be collected from financial reports of 5 pharmaceutical companies listed in the Pakistan Stock Exchange for a period of 10 years (2012-2021). The study will use convenience sampling and a Five-point Likert scale to analyze the data.

### **Findings and Analysis**

In light of this discussion, our study will analyze the impact of liquidity on the profitability of pharmaceutical sector in Pakistan, where liquidity is to be measured by current ratio and profitability by ROA. The five companies that were a part of our research study are Searle, Ferozsons, GlaxoSmith Kline, Weyth and Otsuka.

### ***Searle Pakistan***

Figure 1 analyzes the relationship between liquidity and return on assets (ROA) of Searle, a pharmaceutical company in Pakistan, from 2012 to 2021. The liquidity was measured by current ratio and profitability was measured by ROA. It was observed that when liquidity increased, ROA also increased and vice versa.

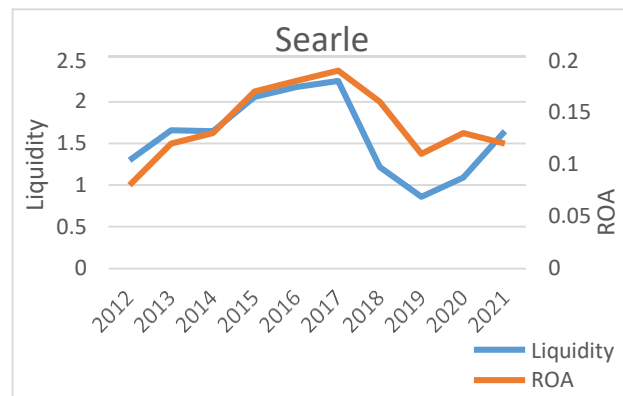


Figure 1

However, in 2019, there was a significant drop in liquidity which had a negative impact on the ROA. This was partly due to the impact of COVID-19 and a loose credit routine, leading to a 47% increase in trade receivables.

### ***Ferozsons***

Ferozsons' liquidity increased from 2012 to 2015 with a peak of 4.8 in 2015, followed by a dip in 2016, a further drop in 2017, a significant increase in 2018 and sustained in 2019. However, liquidity dropped again in 2020 and 2021, with values of 3.09 and 2.9 respectively.

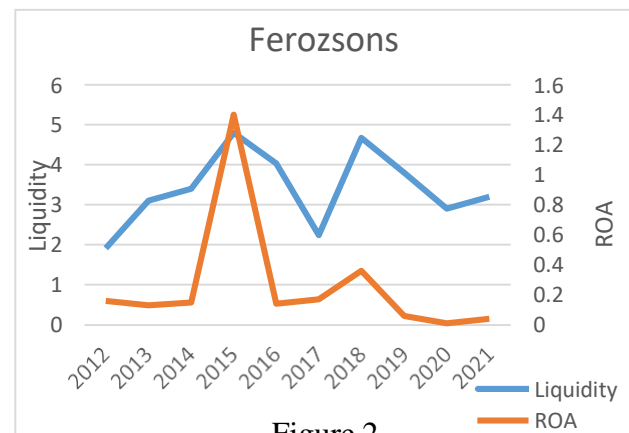


Figure 2

As shown in figure 2, the ROA values remained low and stable from 2012 to 2016 with a spike in 2017 but followed by a sharp drop in 2019 and continued to decrease in 2020 and 2021, with values of 0.01 and 0.04 respectively. Overall, the liquidity of the company has been volatile while the ROA has remained low and relatively stable with occasional spikes.

### ***Otsuka Pakistan***

Otsuka's financial performance was moderate to good from 2012 to 2014, with Liquidity reaching a peak of 1.42 and ROA reaching its highest value of 0.18. However, from 2015 to 2016, both Liquidity and ROA declined, reaching low values of 0.72 and -0.68 respectively.

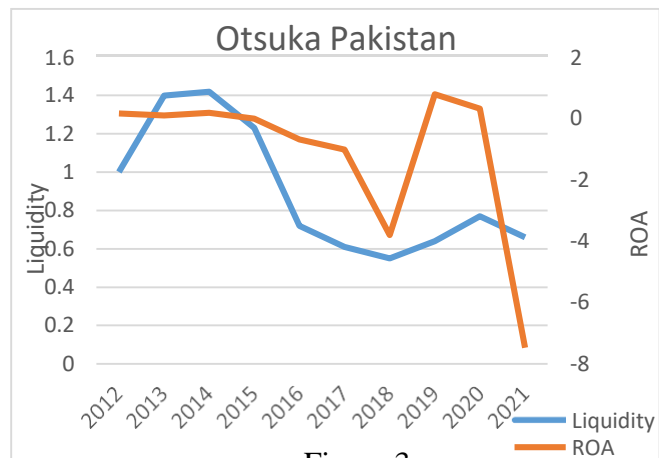


Figure 3

As shown in figure 3, the trend of decline continued in the following two years, but in 2019, there was a slight improvement in Liquidity and a significant improvement in ROA. In 2020, Liquidity improved further while ROA showed a moderate increase, but in 2021 Liquidity declined slightly and ROA suffered a setback.

### ***Weyth***

The financial performance of Weyth has been generally positive in terms of liquidity and ROA, with fluctuations over the years. As shown in figure 4, in 2020, both liquidity and ROA reached high levels of 3.93 and 0.6 respectively, which can be attributed to the

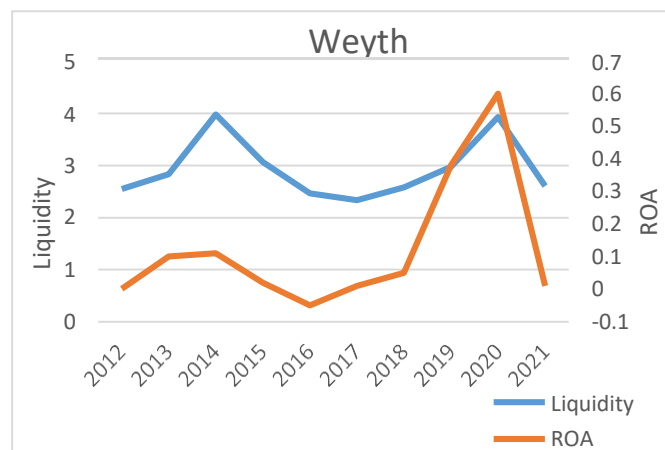


Figure 4

impact of COVID-19 on the pharmaceutical sector in Pakistan. However, in 2021, performance declined slightly with liquidity at 2.6 and ROA at 0.01, possibly due to increased competition and increased costs. Weyth needs to monitor market conditions to maintain competitiveness and profitability.



### **GSK**

GSK showed a moderate level of liquidity in 2012 with ROA of 0.08, which increased over the next few years with peaks of liquidity 2.18 and ROA 0.18 in 2016. As shown in figure 5, despite a decline in liquidity and ROA in 2018, the company remained relatively stable during the COVID-19 pandemic in

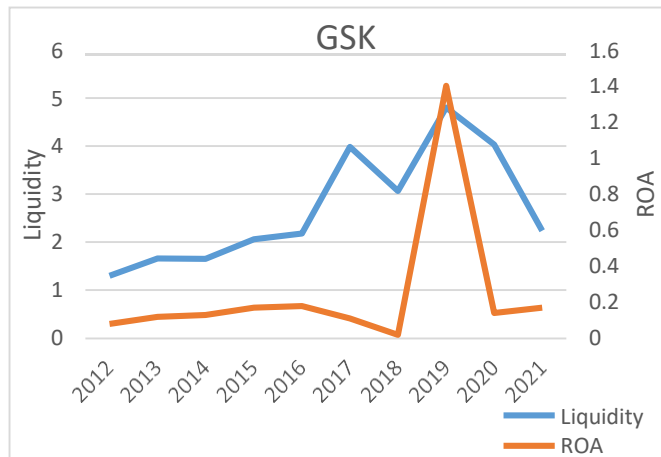


Figure 5

2020 with liquidity at 4.03 and ROA at 0.14. In 2021, liquidity declined slightly to 2.24 with ROA improving slightly to 0.17. Overall, GSK has shown a positive performance over the years with some fluctuations, and the company should focus on cost management, product innovation, and effective marketing to sustain its performance.

### **Analysis of the Opinion of Finance Employees**

Another source by which data was collected was through a questionnaire that was distributed online via Google Forms to the employees of finance department of five leading pharmaceutical companies in Pakistan ;Searle, Ferozsons, GlaxoSmith Kline, Weyth and Otsuka. The questionnaire consisted of mainly two sections, section A consisted of demographic data while section B consisted of 9 close-ended questions that were be aimed to identify the relationship between our two variables i.e, liquidity and profitability in the pharmaceutical sector of Pakistan. All the questions were based on a Five-point Likert scale (1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree). With the help of convenience sampling, a total of 100 responses were obtained for analysis in this study. All responses were fully answered out of 100.

Figure 6 displays the mean scores obtained by each factor of financial liquidity that may have an impact on the profitability of pharmaceutical companies. It can be seen that six factors which are regular assessment of optimum levels of liquidity, tight credit routines, high marketable securities, and effective preparation of cash budgets, high current assets and effective liquidity measurement tools have the highest mean scores of 1.08, 1.02, 1.04, 1.13, 1.08 and 1.16 respectively.

	Descriptive Statistics				
	N	Minimum	Maximum	Mean	Std. Deviation
Clear cash flow guidelines lead to an increase in the overall profitability of your pharmaceutical company.	100	-2	2	.90	.927
Your pharmaceutical company follows tight credit routines.	100	-2	2	.79	1.113
Your company regularly assess the optimum levels of liquidity.	100	-2	2	1.08	.872
Tight credit routines have a positive impact on the profitability of your pharmaceutical company.	100	-2	2	1.02	.964
High marketable securities result in greater profitability at your pharmaceutical company.	100	-2	2	1.04	1.340
Effective preparation of cash budgets has a positive impact on the profitability of your pharmaceutical company.	100	-2	2	1.13	1.098
A very high liquidity ratio often leads to mismanagement in your pharmaceutical company.	100	-2	2	.42	1.552
The current assets at the company are usually maintained at a higher rate than current liabilities.	100	-2	2	1.08	1.079
The liquidity measurement tools at your pharmaceutical company are effective.	100	-2	2	1.16	.884
Valid N (listwise)	100				

Figure 6

This shows that majority of the respondents think that out of all the factors these factors have the highest impact on profitability. Whereas the other factors have a low mean score which indicates that most of the people feel that these factors are only moderately impacting the profitability.

It can be observed that for all the factors the mean score is above 0. This indicates that the respondents believe that all these factors have a positive impact on the profitability of pharmaceutical companies. The respondents strongly believe that liquidity measurement tools at their companies are highly effective and effective preparation of cash budgets result high profitability as they two factors have the highest mean score. The do not agree very strongly that high liquidity ratio leads to mismanagement in company which indicates that they think a high liquidity ratio contributes towards the overall growth of a pharmaceutical company to some extent.

Figure 7 shows the overall average mean for all the questions is 0.95. This indicates that the respondents agreed that there is a positively somewhat strong impact of financial liquidity on the profitability of pharmaceutical sector in Pakistan.

Descriptive Statistics		
	N	Mean
Average_Mean	9	.9578
Valid N (listwise)	9	

Figure 7

Hence, accepting and proving the hypothesis for this research.

### Analysis of the Opinion of CFO

In order to understand the impact of financial liquidity on the profitability of the pharmaceutical sector in Pakistan, an interview was conducted with the Chief Financial Officer (CFO) of one of the leading pharmaceutical company in Pakistan. The interview was conducted online and lasted for approximately 45 minutes. The questions were direct and unstructured. Few were devised beforehand but were not withheld to the script only. They were focused on understanding the impact of financial liquidity on the profitability of the company. The CFO emphasized the importance of maintaining a strong financial liquidity position, which provides the company with the flexibility to invest in growth opportunities and respond to challenges. The financial liquidity position also plays a role in decision-making, including investment opportunities and risk management. The CFO cited specific examples of how financial liquidity positively impacted the company's profitability in the past, through investment in new product lines and expansion of exports. *"A few years ago, we were able to quickly invest in a new product line due to our strong financial liquidity position. This investment helped us to diversify our product portfolio and increase our market share, which positively impacted our profitability."*[R1] He emphasized the importance of a conservative financial management philosophy to maintain financial liquidity, even in challenging economic conditions. The findings of the interview indicate that financial liquidity plays a critical role in the profitability of the pharmaceutical sector. The CFO emphasized

the importance of maintaining a strong financial liquidity position and highlighted that financial liquidity has a major role in the decision-making process.

### **Conclusion**

In conclusion, this research aimed to examine the relationship between financial liquidity and profitability in the pharmaceutical sector of Pakistan. To gather information, data was collected from financial reports, a questionnaire survey with industry professionals, and an interview with the CFO of a leading pharmaceutical company. The findings of the study indicated a significant impact of increased financial liquidity on profitability in the pharmaceutical sector of Pakistan. The results from the questionnaire survey revealed that most of the respondents believed that factors such as regular evaluation of optimum levels of liquidity, strict credit control measures, and effective cash budget preparation had a major impact on profitability. This sentiment was echoed by the CFO in the interview, who stressed the importance of maintaining a strong financial liquidity position for the success and profitability of the pharmaceutical sector. Data from annual reports of the pharmaceutical companies indicated that firms having a high liquidity ratio mostly had high ROA it is important to set an optimum level of liquidity as per the economic and internal situation of the company for better growth. Overall, the research supports the hypothesis that an increase in financial liquidity (measured by current ratio), leads to a corresponding increase in profitability, as measured by return on assets, in the pharmaceutical sector of Pakistan. This study highlights the importance of careful financial management and effective liquidity management in ensuring the success and growth of this industry.

### **Limitations and Recommendations**

There were some limitations while conducting this research. Such as the sample size of the data was small because of time constraint. The data for this study was collected through a combination of annual reports, questionnaires and interview. Although it gave us tremendous insights but on certain factors this method of data collection may have been subject to potential deviations in the results. In accordance with all the results derived from this study the pharmaceutical sector must focus on maintaining a balanced amount of liquidity in the company to achieve improved profitability.

### **References**

- Ibenta, S. N. (2005). Investment analysis and financial management strategy. *Enugu: Institute of Development Studies*.
- Ehiedu, V. C. (2014). The impact of liquidity on profitability of some selected companies: The financial statement analysis (FSA) approach. *Research Journal of Finance and Accounting*, 5(5), 81-90.
- Hermanson, E. (2005). Maher, "Accounting Principles"
- Malik, H. (2011). Determinants of insurance companies profitability: an analysis of insurance sector of Pakistan. *Academic research international*, 1(3), 315.
- Amouzesh, N., Moeinfar, Z., & Mousavi, Z. (2011). Sustainable growth rate and firm performance: Evidence from Iran Stock Exchange. *International Journal of Business and Social Science*, 2(23).
- Morrel, P. S. (2007). *Airline Finance*
- Satish-Chandra, V. (2001). Trade Credit & Company Liquidity. *The Management Account*, 36(10), 738-756.
- Matarazzo, D. C. (2003). *Análise Financeira de Balanços*. São Paulo: Atlas, 2003.
- Maness, T. S., & Zietlow, J. T. (2005). *Short-Term Financial Management*. 3. painos. Mason, Ohio: South-Western.
- Maness, T. S., & Zietlow, J. T. (2005). *Short-Term Financial Management*. 3. painos. Mason, Ohio: South-Western.
- Vieira, R. (2010). The relationship between liquidity and profitability: An exploratory study of airline companies between 2005 and 2008.

Campbell, J. R., & Hercowitz, Z. (2019). Liquidity constraints of the middle class. *American Economic Journal: Economic Policy*, 11(3), 130-55.

### Appendix A (Questionnaire)

Dear Respondents,

I am a student in the MS program at KUBS, University of Karachi. I am conducting research on The Impact of Liquidity on the Profitability of the Pharmaceutical Sector of Pakistan. We have developed the following questions. You are requested to fill out this questionnaire. We assure you that the information provided will be used only for academic purposes.

Thank you for your cooperation.

<b>How do you rate the following factors of liquidity on the profitability of the pharmaceutical sector in Pakistan?</b>						
<b>S no.</b>	<b>Characteristics</b>	<b>S.D</b>	<b>D.A</b>	<b>N</b>	<b>A</b>	<b>SA</b>
1	Clear cash flow guidelines lead to an increase in the overall profitability of your pharmaceutical company.					
2	Your pharmaceutical company follows tight credit routines.					
3	Your company regularly assesses the optimum levels of liquidity.					
4	Tight credit routines have a positive impact on the profitability of your pharmaceutical company.					
5	High marketable securities result in greater profitability at your pharmaceutical company.					
6	Effective preparation of cash budgets has a positive impact on the profitability of your pharmaceutical company.					
7	A very high liquidity ratio often leads to mismanagement in your pharmaceutical company.					
8	The liquidity measurement tools at your pharmaceutical company are effective.					

### Appendix B (Interview Questions)

1. How has the industry's financial liquidity affected its profitability in recent years?
2. Can you share your thoughts on the current state of financial liquidity in the pharmaceutical sector in Pakistan and how it is impacting the industry's profitability?

3. What measures has your company taken to improve its financial liquidity and ensure profitability?
4. What challenges does the pharmaceutical sector in Pakistan face in terms of financial liquidity and how are they being addressed?
5. How has the recent economic landscape in Pakistan impacted the financial liquidity and profitability of the pharmaceutical sector?
6. Can you discuss any innovative solutions or strategies that you believe can be implemented to improve financial liquidity and drive profitability in the pharmaceutical sector in Pakistan?