



## Student Perceptions of Data Analytics Readiness in Accounting Education: Implications for Forensic Accounting Practice

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### ABSTRACT

The pace with which data analytics is being embedded into accounting and forensic services has escalated the demand for accountants to 'hit' the workforce ready to practise and think analytically. This research investigates accounting students' perceptions of data analytics readiness, the degree to which current accounting curricula prepare students for forensic accounting practice through analytic skills development, and identifies perceived voids in skill preparation in relation to data analytics and technology. Self-reported data was obtained from 494 accounting students using a structured questionnaire, and the analysis used descriptive statistics, mean score ranking, reliability analysis, one sample t tests and independent samples t tests. The findings reveal moderate levels of perceived data analytics skill development, with experiential learning and analytics-focused coursework identified as key contributors to readiness. Industry and market demand alignment emerged as the most strongly perceived dimension, indicating students' recognition of the growing importance of analytics in professional accounting and forensic contexts. However, significant gaps were reported in practical application, exposure to advanced analytical tools, and problem-solving capabilities. One-sample t-test results confirmed that students' perceptions across all constructs differed significantly from the neutral benchmark, while no significant differences were observed between undergraduate and postgraduate students. Overall, the study highlights a mismatch between current skill development and industry expectations, emphasizing the need for curriculum reforms that prioritize applied, technology-driven, and experiential learning to enhance data analytics readiness in accounting education.

**Keywords:** Data Analytics, Forensic Accounting, Accounting Education, Skill Gap, Student Perception

### 1. INTRODUCTION:

The accounting profession has gone through a lot of changes because of technology and stricter rules. Accounting is not just about making reports anymore. It also involves analysing and investigating things especially when it comes to accounting. Forensic accounting uses accounting knowledge, auditing techniques and data analysis to help detect fraud investigate crimes and support legal cases.

Nowadays companies often deal with a lot of data and complicated transactions. This makes data analysis a crucial part of accounting. Forensic accountants use tools like data mining, anomaly detection and pattern analysis to find irregularities and make investigations more effective. So, people who graduate with accounting degrees are expected to be good at data analysis in addition to accounting skills.

Even though the expectations for accountants have changed there are still concerns about whether accounting students are being properly prepared for jobs that involve a lot of data analysis. The accounting profession and forensic accounting in particular require a foundation in data analysis, which is not always provided in accounting education. Forensic accounting is a field that needs people who are skilled, in both accounting and data analysis.

This study focuses at what students think about being ready for data analytics, in accounting programs offered. It checks if the current curriculum helps students learn the analytics skills. The study also tries to find out what is missing in terms of data analytics and technology training. The results of the study want to help people talk about how to make accounting education, so it matches what is needed for forensic accounting jobs.

## **2. LITERATURE REVIEW:**

The forensic accounting field is getting attention because financial frauds are getting more complicated and businesses are using computers more. Forensic accounting is not about checking accounts like it used to be. Now it uses computer techniques like data mining and anomaly detection to find fraud. This means accounting professionals need to be good with computers and data. (Crumbley et al., 2017; Rezaee & Riley, 2010). Studies about accounting education show that there is a difference between what schools teach and what companies want. Accounting programs focus on theory. Students do not get to use analytical tools or work with real data enough. This makes it hard for graduates to get jobs in forensic accounting. Companies want accounting graduates to be good at analyzing data solving problems and using accounting software. (Kavanagh & Drennan, 2008) Students are not getting the hands-on experience they need to be good at these things. They need to work on cases and projects to be ready for jobs in forensic accounting. (Appelbaum et al., 2017; Pan & Seow, 2016). The National Education Policy 2020 has a plan to fix these problems by making education more practical and working closely with companies (Aithal & Aithal, 2020). If accounting education follows this plan students will be better at data analysis and ready for jobs in accounting. Even though a lot of research has been done on accounting not many studies have asked students how they feel about their data analysis skills. This study wants to find out what students think and use that information to make accounting education better for accounting jobs (Digabriele, 2008; Jackling & De Lange, 2009).

Despite extensive research on forensic accounting and accounting education reform, limited empirical studies have examined students' perceptions of data analytics readiness, particularly in the Indian context. So, the main goal of this study is to understand what students think about their data analysis skills and how accounting education can be improved for accounting jobs. Forensic accounting is an important field and accounting education needs to prepare students for it. By understanding what students think we can make accounting education better. Prepare students for careers, in forensic accounting.

## **3. RESEARCH METHODOLOGY:**

### **3.1 Research Objectives**

The present study is undertaken with the following objectives:

1. To examine students' perceptions of data analytics readiness in accounting education.
2. To assess the extent to which current accounting curricula equip students with data analytics skills relevant to forensic accounting practice.
3. To identify perceived gaps in data analytics and technology-oriented skill development among accounting students.

### **3.2 Research Questions**

Based on the above objectives, the study seeks to address the following research questions:

1. What do accounting students think about their data analytics skills. Are they ready or not?
2. Does the current accounting curriculum really help students develop the data analytics skills they need for accounting?
3. What gaps exist between students' data analytics training and the analytical skills demanded by forensic accounting practice?

### **3.3 Research Design**

The study adopts a descriptive and analytical research design to analyse students' perceptions regarding data analytics readiness in accounting education.

### **3.4 Sources of Data & Sampling Design:**

The study is based on primary data, collected through a structured questionnaire from undergraduate and postgraduate accounting students studying in various Universities across Gujarat. Questionnaire collected respondents' perceptions regarding curriculum relevance, skill development, market demand, and skill gaps, with specific emphasis on data analytics and technology-enabled learning on a five-point Likert scale. A convenience sampling method is employed due to accessibility and time constraints.

### **3.5 Tools and Techniques of Data Analysis:**

The collected data were analysed using descriptive statistics such as mean, standard deviation, and percentage analysis. Mean score ranking was used to identify key areas of data analytics readiness and

skill gaps. The reliability of the questionnaire was tested using Cronbach’s alpha. One-sample t-tests were applied to examine whether students’ perceptions significantly differed from the neutral scale value

### 3.6 Scope of the Study

This study is about students who are studying accounting in Gujarat. It looks at how ready these accounting students in Gujarat are for data analytics and what this means for the work they will do in forensic accounting. The study does not look at how the accounting students in Gujarat can actually do the work but rather what they think about their own preparation for data analytics, in forensic accounting practice.

## 4. DATA ANALYSIS AND INTERPRETATION:

### 4.1 Profile of Respondents

Table 4.1 presents the demographic profile of the respondents, including age, gender, level of study and University.

**Table 4.1- Demographic Profile of Respondents**

Particulars	Category	Number of Respondents	Percentage (%)
Age	Below 20	244	49.4
	21–25	244	49.4
	Above 25	6	1.2
	<b>Total</b>	494	100.0
Gender	Male	231	46.8
	Female	263	53.2
	<b>Total</b>	494	100.0
Level of Study	Undergraduate Student	255	51.6
	Postgraduate Student	239	48.4
	<b>Total</b>	494	100.0
University	Bhakt Kavi Narsinh Mehta University	20	4.0
	Gujarat University	28	5.7
	Hemchandracharya North Gujarat University	59	11.9
	Maharaja Krishnakumarsinhji University of Bhavnagar	20	4.0
	Maharaja Sayajirao University of Baroda	60	12.1
	Sardar Patel University	123	24.9
	Saurashtra University	11	2.2
	Shri Govind Guru University	22	4.5
	Veer Narmad South Gujarat University	115	23.3
	Other	36	7.3
<b>Total</b>	494	100.0	

The demographic profile indicates a well-distributed sample of 494 accounting students. Nearly all respondents fall within the 20–25 age range, with an equal representation of students below 20 years and those aged 21–25 (49.4% each), suggesting that the sample largely comprises students at formative stages of their academic training. Female respondents slightly outnumber male respondents, accounting for 53.2% of the sample, indicating balanced gender representation. With respect to academic level, undergraduate (51.6%) and postgraduate students (48.4%) are almost equally represented, enabling meaningful comparative analysis across levels of study. The respondents are drawn from multiple universities across Gujarat, with the highest representation from Sardar Patel University (24.9%) and Veer Narmad South Gujarat University (23.3%), reflecting adequate institutional diversity and enhancing the generalizability of the findings.

### 4.2 Students’ Perceptions of Data Analytics Skill Development:

This section analyses students’ perceptions regarding their exposure to data analytics and technology-based skills within the current accounting curriculum.

**Table 4.2 - Data Analytics Skill Development**

Statement Code	Statement (Brief Description)	Mean Score	Rank
DASD1	Proficiency in accounting software	3.2389	2
DASD2	Application of analytics to real-world problems	3.1802	3
DASD3	Experiential learning for analytics skills	3.3117	1

Experiential learning (DASD3) recorded the highest mean score, indicating relatively stronger student agreement regarding its role in developing data analytics skills. Proficiency in accounting software (DASD1) showed moderate readiness, while application of analytics to real-world problems (DASD2) ranked lowest, reflecting weaker practical application. Overall, the results suggest moderate data analytics skill development and a need for greater application-oriented training.

#### 4.3 Market Demand for Data Analytics in Forensic Accounting

Table 4.3 highlights students' views on market expectations and the relevance of data analytics skills for forensic accounting practice.

**Table 4.3 - Market Demand for Data Analytics Skills**

Statement Code	Statement (Brief Description)	Mean Score	Rank
IMDA1	Mandatory internships for analytics exposure	3.5830	2
IMDA2	Emphasis on analytics and financial modelling	3.5870	1
IMDA3	Industry collaboration for real-world projects	3.5040	3

Emphasis on analytics and financial modelling (IMDA2) ranked highest, followed closely by mandatory internships (IMDA1), highlighting students' preference for analytically intensive coursework and structured industry exposure. Industry collaboration (IMDA3) ranked lowest, though above the neutral value, indicating moderate support. The findings underscore the importance of aligning curriculum content with industry and forensic accounting requirements.

#### 4.4 Skill Gap in Data Analytics Readiness

This section examines the perceived gap between existing accounting education and the analytical skills required for forensic accounting practice.

**Table 4.4 - Perceived Skill Gap in Data Analytics**

Statement Code	Statement (Brief Description)	Mean Score	Rank
DASG1	Lack of practical application	3.4960	1
DASG2	Inadequate training in data analytics	3.4474	4
DASG3	Weak problem-solving and critical thinking	3.4737	3
DASG4	Insufficient exposure to advanced tools	3.4838	2

Lack of practical application (DASG1) emerged as the most significant perceived skill gap, followed by insufficient exposure to advanced tools (DASG4). Weak problem-solving skills (DASG3) and inadequate analytics training (DASG2) were also noted. Overall, the results highlight the need for enhanced practical, tool-based learning to bridge analytics skill gaps.

#### 4.5 Mean Score Ranking – Composite Variable-wise

For meaningful analysis, individual questionnaire statements related to data analytics readiness and forensic accounting relevance were grouped into composite variables. This helps in reducing complexity, improving interpretability, and aligning the analysis with the research objectives.

**Table 4.5 - Mean Score Ranking – Composite Variable-wise**

Composite Variable	Description	Mean Score	Rank
DASD	Data Analytics Skill Development	3.2436	3
IMDA	Industry & Market Demand Alignment	3.5580	1
DASG	Data Analytics Skill Gap	3.4752	2

The composite mean score ranking shows that Industry and Market Demand Alignment (IMDA) ranked highest (Mean = 3.5580), indicating strong student agreement on the need for curricula aligned with industry and forensic accounting requirements. Data Analytics Skill Gap (DASG) ranked second (Mean = 3.4752), reflecting notable perceived deficiencies in practical and analytical competencies. Data Analytics Skill Development (DASD) recorded the lowest mean score (Mean = 3.2436), suggesting comparatively weaker perceived readiness in analytics skills. Overall, the findings highlight a mismatch

between industry expectations and current skill development, underscoring the need for curriculum reforms emphasizing applied data analytics training.

**4.6 Reliability Test:**

This test examines the internal consistency of the variables used in the study to ensure the reliability of the responses collected from the participants.

**Table 4.6 – Cronbach’s Alpha**

Factors	Cronbach’s Alpha	Number of Variables
All	0.808	10
DASD	0.769	3
IMDA	0.746	3
DASG	0.758	4

The reliability analysis confirms good internal consistency, with an overall Cronbach’s alpha of 0.808, exceeding the acceptable threshold. The subscales—Data Analytics Skill Development (0.769), Industry and Market Demand Alignment (0.746), and Data Analytics Skill Gap (0.758)—also demonstrate satisfactory reliability, indicating suitability for further analysis.

**4.7 Hypothesis testing:**

**One Sample T- test:**

Based on the research objectives, null hypotheses were formulated to examine students’ perceptions of data analytics skill development, industry and market demand alignment, and perceived data analytics skill gaps. One-sample t-tests were applied to test whether the mean scores of the selected constructs significantly differed from the neutral scale value.

H<sub>01</sub>: There is no significant difference between the mean score of Data Analytics Skill Development (DASD) and the neutral scale value.

H<sub>02</sub>: There is no significant difference between the mean score of Industry and Market Demand Alignment (IMDA) and the neutral scale value.

H<sub>03</sub>: There is no significant difference between the mean score of perceived Data Analytics Skill Gap (DASG) and the neutral scale value.

**Table 4.7 - One Sample Statistics**

	N	Mean	Standard Deviation	Standard Error Mean
DASD	494	3.2436	1.00766	.04534
IMDA	494	3.5580	.93423	.04203
DASG	494	3.4752	.90945	.04092

**Table 4.8 - One Sample Test**

	Test Value =3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
DASD	5.373	493	.000	.24359	.1545	.3327
IMDA	13.276	493	.000	.55803	.4754	.6406
DASG	11.614	493	.000	.47520	.3948	.5556

The one-sample t-test results show that the mean scores of Data Analytics Skill Development (Mean = 3.2436), Industry and Market Demand Alignment (Mean = 3.5580), and Data Analytics Skill Gap (Mean = 3.4752) differ significantly from the neutral value of 3 (p < 0.001). These findings indicate moderate perceived analytics readiness, strong demand for industry-aligned curricula, and the presence of significant skill gaps, leading to the rejection of all null hypotheses.

**4.8 Independent Sample T -Test:**

To examine whether students’ perceptions of data analytics readiness, industry alignment, and skill gaps differ significantly between undergraduate and postgraduate accounting students independent t test was applied.

**H<sub>04</sub>:** There is no significant difference in Data Analytics Skill Development (DASD) between undergraduate and postgraduate accounting students.

**H<sub>05</sub>:** There is no significant difference in Industry and Market Demand Alignment (IMDA) between undergraduate and postgraduate accounting students.

**H<sub>06</sub>:** There is no significant difference in perceived Data Analytics Skill Gap (DASG) between undergraduate and postgraduate accounting students.

**Table 4.9 - Group Statistics**

Educational Qualification		N	Mean	Std. Deviation	Std. Error Mean
DASD	Undergraduate Student	255	3.2275	1.00985	.06324
	Post Graduate Student	239	3.2608	1.00714	.06515
IMDA	Undergraduate Student	255	3.5020	.92684	.05804
	Post Graduate Student	239	3.6179	.94030	.06082
DASG	Undergraduate Student	255	3.5157	.90642	.05676
	Post Graduate Student	239	3.4320	.91258	.05903

**Table 4.10 - Independent Samples Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
<b>DASD</b>	Equal Variances Assumed	.002	.964	-.367	492	.713	-.03336	.09080	-.21176	.14505
	Equal Variances not Assumed			-.367	490.101	.713	-.03336	.09079	-.21175	.14503
<b>IMDA</b>	Equal Variances Assumed	.071	.789	-1.379	492	.168	-.11589	.08403	-.28100	.04922
	Equal Variances not Assumed			-1.378	488.922	.169	-.11589	.08407	-.28108	.04930
<b>DASG</b>	Equal Variances Assumed	.016	.900	1.022	492	.307	.08368	.08188	-.07719	.24455
	Equal Variances not Assumed			1.022	489.483	.307	.08368	.08189	-.07723	.24458

The independent samples t-test indicates no statistically significant differences between undergraduate and postgraduate students across Data Analytics Skill Development, Industry and Market Demand Alignment, and Data Analytics Skill Gap ( $p > 0.05$ ). Although postgraduate students reported marginally

higher mean scores for skill development and industry alignment, and undergraduates reported slightly higher perceived skill gaps, these differences were not statistically significant. Overall, the findings suggest comparable perceptions of data analytics readiness and skill gaps across levels of study.

**Table 4.11 - Summary of Hypothesis Testing**

Ho	Hypothesis Statement	Test Applied	Test Statistics	p-value	Result	Interpretation
H <sub>01</sub>	There is no significant difference between the mean score of Data Analytics Skill Development and the neutral scale value.	One Sample T - Test	t = 5.373	0.000	Rejected	Students' perceptions of DASD differ significantly from the neutral scale value.
H <sub>02</sub>	There is no significant difference between the mean score of Industry and Market Demand Alignment and the neutral scale value.	One Sample T - Test	t = 13.276	0.000	Rejected	Students' perceptions of IMDA differ significantly from the neutral scale value.
H <sub>03</sub>	There is no significant difference between the mean score of perceived Data Analytics Skill Gap and the neutral scale value.	One Sample T - Test	t = 11.614	0.000	Rejected	Students perceive a significant gap in data analytics skills compared to the neutral benchmark.
H <sub>04</sub>	There is no significant difference in Data Analytics Skill Development between undergraduate and postgraduate accounting students.	Independent Sample T - Test	t = -.367	0.713	Fails to Reject	No significant difference.
H <sub>05</sub>	There is no significant difference in Industry and Market Demand Alignment between undergraduate and postgraduate accounting students.	Independent Sample T - Test	t = -1.379	0.168	Fails to Reject	No significant difference.
H <sub>06</sub>	There is no significant difference in perceived Data Analytics Skill Gap between undergraduate and postgraduate accounting students.	Independent Sample T - Test	t = 1.022	0.307	Fails to Reject	No significant difference.

## 5.FINDINGS & SUGGESTIONS:

The analysis indicates moderate levels of data analytics readiness among accounting students, with experiential learning and analytics-focused coursework perceived as key contributors. Industry and market demand alignment emerged as the strongest dimension, while significant gaps were identified in practical application, exposure to advanced tools, and problem-solving skills. One-sample t-test results confirmed that all constructs differed significantly from the neutral value, whereas independent samples t-tests revealed no significant differences between undergraduate and postgraduate students. Overall, the findings highlight a mismatch between current skill development and industry expectations, underscoring the need for curriculum reforms emphasizing applied and technology-driven analytics training.

## 6. CONCLUSION:

The study found moderate data analytics readiness among accounting students, with strong emphasis on industry-aligned and analytics-focused curricula but notable gaps in practical application, advanced tool exposure, and problem-solving skills. One-sample t-tests confirmed significant deviations from the neutral benchmark across all constructs, while no significant differences were observed between undergraduate and postgraduate students. Overall, the findings highlight the need for curriculum reforms that strengthen experiential, technology-driven, and industry-integrated learning to better prepare students for forensic accounting practice.

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