ASSIGNMENT 4

ALY 6000 Introduction to Analytics
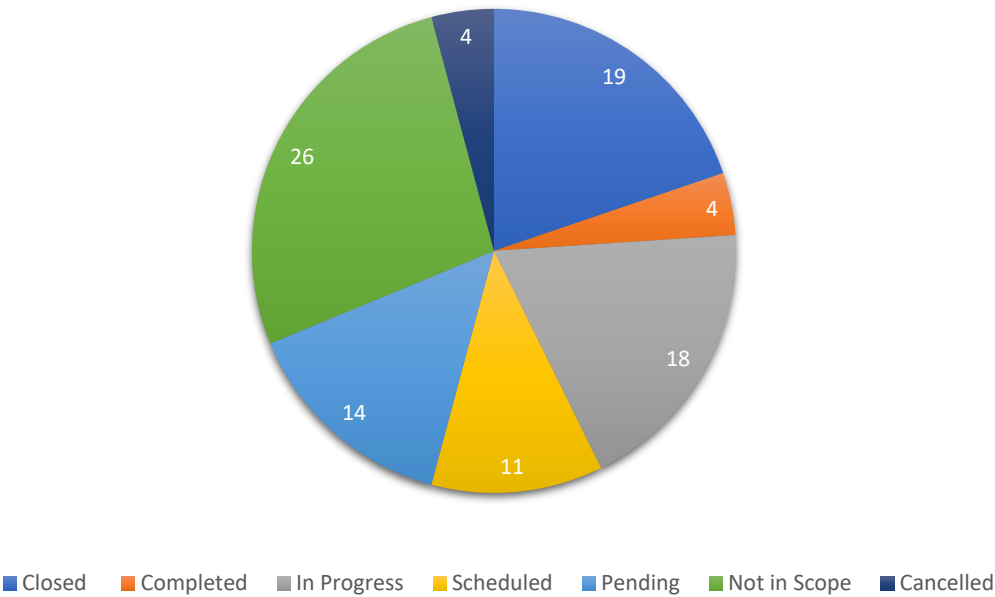
JUNE 13, 2020
NORTHEASTERN UNIVERSITY
Sajak Rokaya

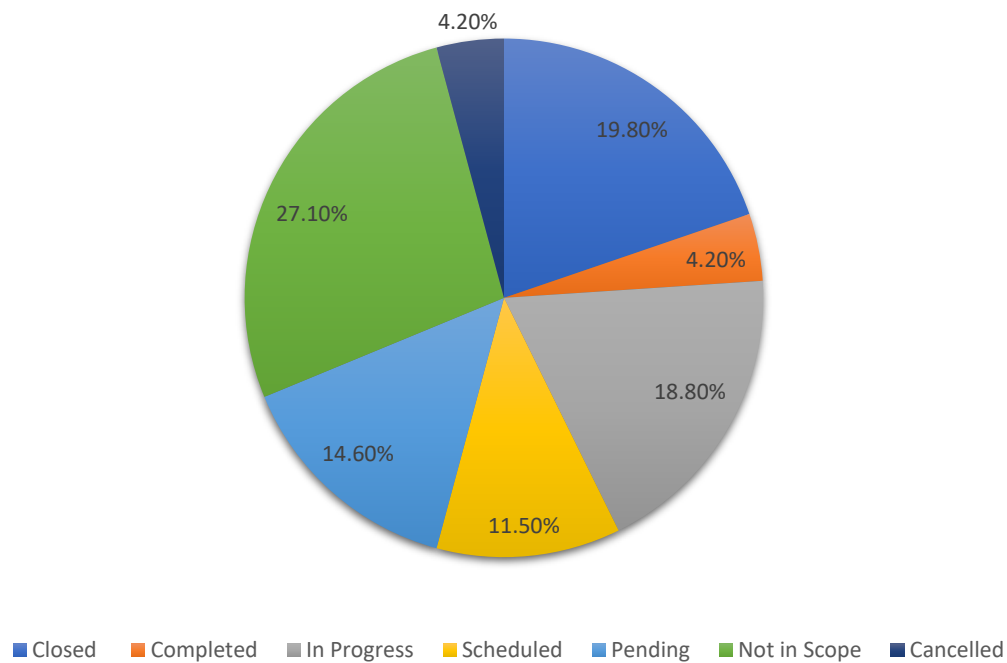**Part 1**

Descriptive Table (GXP Audit):

Audit. Status	Frequency	Percentage	Valid Percentage
Closed	19	19.8%	19.8%
Completed	4	4.2%	4.2%
In Progress	18	18.8%	18.8%
Scheduled	11	11.5%	11.5%
Pending	14	14.6%	14.6%
Not in Scope	26	27.1%	27.1%
Cancelled	4	4.2%	4.2%
Total	**96**	**100.0%**	**100.0%**

Audit Status Count (GXP)

Legend: Closed, Completed, In Progress, Scheduled, Pending, Not in Scope, Cancelled

Audit Status Percentage (GXP)

Legend: Closed · Completed · In Progress · Scheduled · Pending · Not in Scope · Cancelled

Slice labels: 4.20%, 19.80%, 4.20%, 18.80%, 11.50%, 14.60%, 27.10%
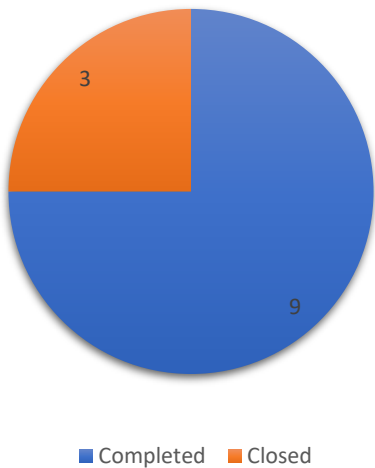
Discussion:

The descriptive analysis depicts the status report of the audit conducted for guideline for 'Good working Practice' pertaining to various branches of the pharmaceutical industry in 2017. It shows how many audits are completed, closed, in progress, scheduled, pending, not in scope and cancelled for the year 2017. However, the data does not provide clarity on difference between audits that are completed and closed. As per the analysis, most of the audits (27.10%) are not in scope. The percentage of closed projects seems good at 19.80%. However, 14.60% of the audits are still pending. Only 4.2% of the audits are completed. 11.50% of the audits are scheduled and 4.2% of the audits are cancelled. Notes are not provided for any audits. At least the notes for the cancellation of the projects would have made sense.

Descriptive Table:

CSQA Audit

Audit Status	Frequency	Percent	Valid Percent
Completed	9	75.0%	75.0%
Closed	3	25.0%	25.0%
Total	12	100.0%	100.0%

Audit Status Count (CSQA)

3

9

■ Completed ■ Closed

Audit Status Percentage (CSQA)
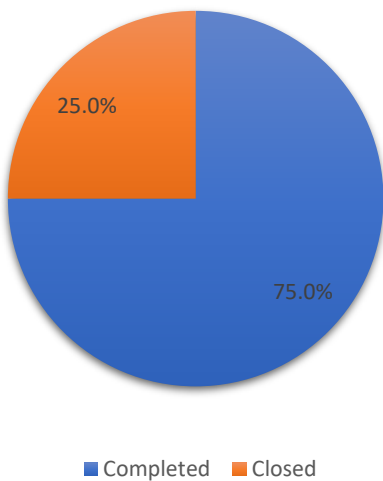
25.0%

75.0%

■ Completed ■ Closed

Discussion:

The descriptive analysis depicts the status report of the audit conducted for Computerized System Quality Assurance in 2017. It shows how many audits are completed and closed for the year 2017. The data shows that 75% of the audits are completed and 25% of the audits are closed. However, some data like TW report number, date of intake, audit start date, audit end date, date of audit debrief are missing.

Part 2

Answer 1

GXP Audit Data

Date.of.Intake	Date.Q.sent	Days_Intake_QSent
1/13/2017	1/19/2017	6
1/13/2017	1/19/2017	6
1/25/2017	1/26/2017	1
1/25/2017	1/26/2017	1
1/25/2017	1/27/2017	2
1/25/2017	1/26/2017	1
1/25/2017	1/26/2017	1
1/25/2017	1/26/2017	1
2/8/2017	4/20/2017	71
2/9/2017	5/8/2017	88
4/21/2017	5/4/2017	13
	Mean	17.36
	Median	2

CSQA Audit Data

Date of Intake	Date Q sent	Days_Intake_QSent
4/3/2017	6/16/2017	74
7/11/2017	8/7/2017	27
	Mean	50.5
	Median	50.5

Answer 2

GXP Audit Data

Date.Q.sent	Date.Q.Rcvd	Days_QSent_QReceived
1/19/2017	2/1/2017	13
1/19/2017	2/2/2017	14
1/26/2017	3/23/2017	56
1/26/2017	3/1/2017	34
1/27/2017	2/28/2017	32
1/26/2017	3/2/2017	35
1/26/2017	3/8/2017	41
1/26/2017	3/8/2017	41
5/8/2017	5/19/2017	11
5/4/2017	5/19/2017	15
	Mean	29.2
	Median	33

CSQA Audit Data

Date Q sent	Date Q Rcvd	Days QSent_QReceived
6/16/2017	6/30/2017	14
8/7/2017	8/29/2017	22
	Mean	18
	Median	18

The variable depicts the time taken between sending of the questions and receiving of the questions. It does not apply to all the audits because questions are not sent in all the audits. Also, the dates of questions sent and received are not available for all the audits.

Answer 3

GXP Audit Data

Date.On.Site.Scheduled	Audit.Start.Date	Date.On.Site.Scheduled_ Audit.Start.Date
6/5/2017	7/12/2017	37
1/13/2017	2/20/2017	38
3/17/2017	4/25/2017	39
3/8/2017	3/21/2017	13
2/7/2017	2/21/2017	14
5/4/2017	5/10/2017	6

5/4/2017	6/12/2017	39
3/24/2017	4/3/2017	10
5/4/2017	6/20/2017	47
5/4/2017	6/26/2017	53
5/3/2017	5/31/2017	28
6/30/2017	10/10/2017	102
9/27/2017	11/27/2017	61
8/3/2017	8/31/2017	28
9/20/2017	10/12/2017	22
5/4/2017	6/29/2017	56
5/4/2017	9/27/2017	146
5/2/2017	8/1/2017	91
5/4/2017	7/10/2017	67
6/30/2017	9/18/2017	80
6/30/2017	9/21/2017	83
6/26/2017	9/19/2017	85
9/14/2017	10/24/2017	40
8/3/2017	9/19/2017	47
8/3/2017	9/26/2017	54
3/31/2017	5/24/2017	54
6/29/2017	9/19/2017	82
6/16/2017	11/15/2017	152
6/16/2017	11/14/2017	151
6/29/2017	11/29/2017	153
9/15/2017	11/14/2017	60
8/31/2017	10/3/2017	33
3/17/2017	4/19/2017	33
4/14/2017	5/23/2017	39
4/14/2017	5/1/2017	17
5/4/2017	5/24/2017	20
3/6/2017	3/6/2017	0
7/18/2017	8/9/2017	22
6/30/2017	8/8/2017	39
8/2/2017	8/22/2017	20
9/8/2017	9/25/2017	17
9/7/2017	11/1/2017	55
9/7/2017	11/13/2017	67
8/21/2017	11/13/2017	84
9/7/2017	11/14/2017	68
	Mean	54.49
	Median	47

CSQA Audit Data

Date On Site Scheduled	Audit Start Date	Date on Site Scheduled_ Audit Start Date
1/30/2017	3/1/2017	30
2/22/2017	3/29/2017	35
2/22/2017	3/7/2017	13
5/31/2017	7/25/2017	55
6/20/2017	8/22/2017	63
5/24/2017	7/18/2017	55
6/15/2017	8/14/2017	60
5/26/2017	7/13/2017	48
5/24/2017	7/11/2017	48
	Mean	45.2
	Median	48

It does not apply for all the audits because all the audits do not have dates on site scheduled and audit start date data available.

Answer 4

GXP Audit Data

Audit.Start.Date	Audit.End.Date	Audit.Start.Date_ Audit.End.Date
2/14/2017	2/16/2017	2
7/12/2017	7/13/2017	1
2/7/2017	2/8/2017	1
2/20/2017	2/23/2017	3
4/25/2017	4/27/2017	2
3/21/2017	3/23/2017	2
2/21/2017	2/24/2017	3
5/10/2017	5/10/2017	0
6/12/2017	6/13/2017	1
2/20/2017	2/21/2017	1
4/3/2017	4/4/2017	1
6/20/2017	6/21/2017	1
6/26/2017	6/27/2017	1
5/31/2017	6/1/2017	1
10/10/2017	10/11/2017	1

11/27/2017	11/28/2017	1
8/31/2017	8/31/2017	0
10/12/2017	10/13/2017	1
6/29/2017	6/30/2017	1
9/27/2017	9/29/2017	2
8/1/2017	8/2/2017	1
7/10/2017	7/10/2017	0
9/18/2017	9/19/2017	1
9/21/2017	9/22/2017	1
9/19/2017	9/19/2017	0
10/24/2017	10/25/2017	1
9/19/2017	9/20/2017	1
9/26/2017	9/27/2017	1
5/24/2017	5/24/2017	0
9/19/2017	9/21/2017	2
11/15/2017	11/16/2017	1
11/14/2017	11/14/2017	0
11/29/2017	12/1/2017	2
11/14/2017	11/15/2017	1
10/3/2017	10/5/2017	2
4/19/2017	4/20/2017	1
5/23/2017	5/24/2017	1
5/1/2017	5/2/2017	1
5/24/2017	5/24/2017	0
3/6/2017	3/6/2017	0
7/11/2017	7/13/2017	2
8/9/2017	8/10/2017	1
8/8/2017	8/9/2017	1
8/22/2017	8/23/2017	1
9/25/2017	9/26/2017	1
11/1/2017	11/2/2017	1
11/13/2017	11/14/2017	1
8/31/2017	8/31/2017	0
11/13/2017	11/14/2017	1
11/14/2017	11/15/2017	1
	Mean	1.06
	Median	1

CSQA Audit Data

Audit Start Date	Audit End Date	Audit Start Date_ Audit End Date
3/1/2017	3/2/2017	1
3/29/2017	3/30/2017	1
3/7/2017	3/8/2017	1
7/25/2017	7/26/2017	1
8/22/2017	8/23/2017	1
7/18/2017	7/19/2017	1
8/14/2017	8/15/2017	1
7/13/2017	7/13/2017	0
7/11/2017	7/11/2017	0
	Mean	0.78
	Median	1

Answer 5

GXP Audit Data

Audit.End.Date	Date.Final..Report.Due	Audit.End.Date_ Date.Final.Report.Due
2/16/2017	3/15/2017	27
7/13/2017	8/12/2017	30
2/8/2017	3/10/2017	30
2/23/2017	3/25/2017	30
4/27/2017	5/27/2017	30
3/23/2017	4/22/2017	30
2/24/2017	3/26/2017	30
5/10/2017	6/9/2017	30
6/13/2017	7/13/2017	30
2/21/2017	3/23/2017	30
4/4/2017	5/4/2017	30
6/21/2017	7/21/2017	30
6/27/2017	7/27/2017	30
6/1/2017	7/1/2017	30
10/11/2017	11/10/2017	30
11/28/2017	12/28/2017	30

8/31/2017	9/30/2017	30
10/13/2017	11/12/2017	30
6/30/2017	7/30/2017	30
9/29/2017	10/29/2017	30
8/2/2017	9/1/2017	30
7/10/2017	8/9/2017	30
9/19/2017	10/19/2017	30
9/22/2017	10/22/2017	30
9/19/2017	10/19/2017	30
10/25/2017	11/24/2017	30
9/20/2017	10/20/2017	30
9/27/2017	10/27/2017	30
5/24/2017	6/23/2017	30
9/21/2017	10/21/2017	30
11/16/2017	12/16/2017	30
11/14/2017	12/14/2017	30
12/1/2017	12/31/2017	30
11/15/2017	12/15/2017	30
10/5/2017	11/4/2017	30
4/20/2017	5/20/2017	30
5/24/2017	6/23/2017	30
5/2/2017	6/1/2017	30
5/24/2017	6/23/2017	30
3/6/2017	4/5/2017	30
7/13/2017	8/12/2017	30
8/10/2017	9/9/2017	30
8/9/2017	9/8/2017	30
8/23/2017	9/22/2017	30
9/26/2017	10/26/2017	30
11/2/2017	12/2/2017	30
11/14/2017	12/14/2017	30
8/31/2017	9/30/2017	30
11/14/2017	12/14/2017	30
11/15/2017	12/15/2017	30
	Mean	29.94
	Median	30

CSQA Audit Data

Audit End Date	Date Final Report Due	Audit End Date_ Date Final Report Due
3/2/2017	4/1/2017	30
3/30/2017	4/29/2017	30
3/8/2017	4/7/2017	30
7/26/2017	8/25/2017	30
8/23/2017	9/22/2017	30
7/19/2017	8/18/2017	30
8/15/2017	9/14/2017	30
7/13/2017	8/12/2017	30
7/11/2017	8/10/2017	30
	Mean	30
	Median	30

Answer 6

GXP Audit Data

Date.Final..Report.Due	Date.of..Completion	Date.Final.Report.Due_ Date of.Completion
3/15/2017	3/16/2017	1
8/12/2017	8/11/2017	-1
3/10/2017	3/10/2017	0
3/3/2017	3/3/2017	0
3/3/2017	3/3/2017	0
3/25/2017	3/24/2017	-1
5/27/2017	5/19/2017	-8
4/22/2017	4/21/2017	-1
4/22/2017	4/10/2017	-12
4/1/2017	4/4/2017	3
3/30/2017	4/4/2017	5
4/1/2017	4/10/2017	9
4/7/2017	3/23/2017	-15
4/7/2017	4/27/2017	20
3/23/2017	3/23/2017	0
5/4/2017	5/4/2017	0

6/23/2017	6/23/2017	0
5/20/2017	5/19/2017	-1
6/23/2017	6/22/2017	-1
6/1/2017	5/25/2017	-7
4/5/2017	4/5/2017	0
8/12/2017	8/16/2017	4
9/9/2017	9/7/2017	-2
9/8/2017	9/8/2017	0
9/22/2017	9/25/2017	3
	Mean	-0.16
	Median	0

CSQA Data

Date Final Report Due	Date of Completion	Date Final Report Due_ Date of Completion
4/1/2017	4/10/2017	9
4/29/2017	4/28/2017	-1
4/7/2017	4/7/2017	0
8/25/2017	10/4/2017	40
9/22/2017	9/27/2017	5
8/18/2017	8/18/2017	0
9/14/2017	9/27/2017	13
8/12/2017	8/11/2017	-1
7/30/2017	8/10/2017	11
8/10/2017	8/10/2017	0
9/28/2017	9/28/2017	0
	Mean	6.909090909
	Median	0

Part 3

I would not recommend merging the two worksheets "2017 Gxp Audits" and "2017 CSQA" Audits. Firstly, both the data are of two different audits, one data represents the good working practice audit and the other data represents the Computerized system Quality Assurance audit, hence it is better to analyze the data separately. The Data of GXP Audit is big and the data of CSQA audit is smaller in size. Therefore, it will be difficult to figure out the result when the data are merged.