TRADE PERCEPTION SURVEY

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Structure of the presentation

Introduction
Trade Perception Survey Indicators
Sampling Methodology
Preliminary Results

Introduction

- **Purpose**: To assess the perception of entrepreneurs in India and Pakistan to gauge two broad aspects
  - To capture the extent of current impediments to India-Pakistan trade
  - To capture the perception of the business and trade environment for the next year in the two countries.
  - To create a base line so that it can be compared in successive surveys.

- **Design**:
  - Using a structured questionnaire covering various aspects of trade and business environment.
  - The sample covers only those firms that are trading with Pakistan
  - The sample for the survey are 200 firms in India and 200 firms in Pakistan spread across various cities in order to incorporate the geographical diversity and commodities.
  - Respondents covered include exports, importers, freight forwarders, clearing agents.
  - Difficulty in identifying importers

Trade Perception Survey Indicators

- Even though there a large number of indicators that are used for such studies, we have selected those that are relevant for India Pakistan trade. In fact we have added indicators that are most relevant for India Pakistan trade.

- **Trade Policy Awareness**
  - Pakistan allows import of all items except 1209 items
  - Pakistan is moving towards granting MFN status to India and India already offers MFN to Pakistan
  - India permits the import of all items from Pakistan
  - India offers concessional duty rates to imports from Pakistan under SAFTA
  - Only 137 items are allowed to be exported to Pakistan by road
  - All items are allowed to be imported from Pakistan by road
  - There are no restrictions on commodities to be traded by rail
  - New facilities are offered at the Integrated Check Post at Attari (Punjab) since April 2012
  - Rules of Origin requirement under SAFTA

Trade Perception Survey Indicators (Contd.)

- **Market Access**
  - Over all Increase in Market Access
  - Growth in volume of trade
  - Number of commodities traded
  - 'Made in India' label reduces market access for India's products in Pakistan
  - India-Pakistan political event hamper trade

- **Business Facilitation**
  - Informal payments to facilitate trade
  - Ease of obtaining Visas
  - Ease of communication with traders on the other side
  - Competence of the logistics industry
  - Efficiency of banks for processing documents

Trade Perception Survey Indicators (Contd.)

- **Standards (Separately for SPS and TBT)**
  - Process standard requirements
  - Product standard requirements
  - Post production standard requirements
  - Labeling, Marketing and Packaging requirements
  - Conformity Assessments (registration, testing, certification, inspection)

- **Customs and Documentation**
  - Efficiency in processing of Pre-shipment documents
  - Processing time of documents by customs
  - Customs' awareness of Trade Policy
  - Excessive checks due to security measures for export with Pakistan

Trade Perception Survey Indicators (Contd.)

- **Infrastructure at Ports**
  - Road access to the LCS/ICP/Port
  - Availability of Services at the LCS/ICP/Port – Banking and Warehousing
  - Congestion at border/ LCS/Port
  - Labour Costs at Port
  - Availability of Wagons (Only for Rail)
  - Pilferage

- **Delays**
  - Delays (In and Out of Port)
  - Damages due to delays
  - Delays in Payments

Trade Perception Survey Indicators (Contd.)

- **Overall Indicators**
  - Awareness of trade policy
  - Market Access
  - Business Facilitation
  - Standards
  - Efficiency of Customs and trade procedures – Road, Rail and Sea
  - Infrastructure at Ports – Road, Rail and Sea

- **Other Indicators**
  - Expected Growth in Exports and Imports
  - Percentage by which capacity at Border Points needs to be increased

Methodology

Methodology: Trade Perception Index Introduction

- With worldwide fall in tariff levels, efficiency of supply chains & associated logistics costs are becoming core determinants of competitiveness of both firms & countries
- Aim is to construct Trade Perception Index
  - Policy Variables needs change for vibrant growth

The Data for Constructing Barrier Index

- Primary surveys based on structured questionnaires in India, Pakistan
- Focus on trade between India and her SA partners
- Respondents: Exporters, Importers, Freight-forwarders
  - Asked to give perception about impediments in a scale of 0-5
  - Asked to report about change in recent 5 years

Broad Parameters	Sub-Parameters	Number of Sub-Sub parameters
General	Efficiency in processing of Pre-shipment/ pre-arrival documents	
	Meeting Standards	10
	Market Access	15
	Trade Policy	10
	Business Facilitation	8

Broad Parameters for	Sub-Parameters	Number of Sub-Sub parameters
Any modes of Transport (Road, Rail, Sea or Air)	Customs and Documentation	8
	Infrastructure at LCS	11
	Transaction costs	5
	Delivery times	4

PRINCIPAL COMPONENT ANALYSIS (PCA)

- A statistical tool which is a part of Factor Analytic Technique
- Is able to convert a large number of variables into a single composite index through assigning weightage to each variable in an objective manner
- Is an extremely useful tool for for the purpose of comparison across number of observations through a large number of variables

DEFINING A COMPOSITE INDEX

Composite index, which is an ideal representative of the chosen set of variables, is defined as,

$$C_i = W_1x_{11} + W_2x_{12} + W_3x_{13} + \ldots\ldots\ldots\ldots + W_nx_{1n}$$

or, $C_i = \sum W_i\, x_{ij}$,

where C_i is the composite index for the i^{th} observation, W_j is the weight assigned to j^{th} indicator and x_{ij} is the observation value

Analytics of PCA

- Elimination of scale bias
  - Observed variables need to be scale free: $x_{ij} = (X_{ij} - X_m / \sigma)$

    where x_{ij} is the scale free observation, X_{ij} is the original observation and

    X_m is the mean of the series and σ is the standard deviation

    x_{ij} would be scale free with zero mean & unity standard deviation
- Assigning weights objectively using Factor Analytic Model
  - No insight which of these parameters should be given more weight
  - Assigning equal weight (or no weight) would imply assumption of equal correlation of each indicator with the composite index of importance which would hardly be a realistic approach in this case
  - Selection based on econometric method

Factor Analytics Tool

- Used to construct a composite index in such a way that the weights given maximize the sum of the squares of correlation (of the indicators with the composite index).
  - The application of Factor Analysis or Principal Component Analysis in this specific case has been accepted in 'objective ranking' of the regions
  - This enables one to determine a vector known as the first Principal Component or Factor, which is linearly dependent on the variables, having the maximum sum of squared correlation with the variables
- The weights to the indicators are chosen in such a way so that the Principal Components satisfy two conditions:
  - Number of Principal Components is equal to the number of indicators & they are uncorrelated or orthogonal in nature
  - First Principal Component or P_1 absorbs or accounts for the maximum possible proportion of variation in the set of the indicators
  - This is the reason why it serves as the ideal measure of composite index

Method of PCA: Step 1

We start by taking the simple correlation coefficients of the k numbers of indicators & constructing the correlation table. The correlation matrix is symmetrical, i.e., $r_{xi\ \ xj} = r_{xj\ \ xi}$

Correlation Table of the set of K Variables

X_1	X_1	X_2	X_2	X_2	X_2
X_2	$r_{x1\ x1}$	$X\text{-}_3$	$X\text{-}_3$	$X\text{-}_3$	$X\text{-}_3$
“	$r_{x2\ x1}$	X_k	X_k	X_k	X_k
“	..	$\Sigma^k_i\ r_{xi\ xj}$	$\Sigma^k_i\ r_{xi\ xj}$	$\Sigma^k_i\ r_{xi\ xj}$	$\Sigma^k_i\ r_{xi\ xj}$
X_k	..	$r_{x1\ x2}$	$r_{x1\ x2}$	$r_{x1\ x2}$	$r_{x1\ x2}$
“	..	..	..	..	..
$\Sigma^k_i\ r_{x1\ xj}$	$r_{xk\ x1}$	$r_{x1\ xk}$	$r_{x1\ xk}$	$r_{x1\ xk}$	$r_{x1\ xk}$

Method of PCA

- Step 2: Sum of each column (or row) of the correlation table is computed, obtaining k number of sums of simple correlation coefficient
- $\Sigma^k_i \, r_{xi\ xj} \quad = \Sigma^k_i \, r_{xi\ xj}$
- Step 3: We compute the sum total of the column (or row) sums and we take its square roots
- $\Sigma^k_i \, \Sigma^k_j \, r_{xi\ xj}$
- Step 4: Finally, we obtain the factor loadings for the first Principal Component P_1 by dividing each column (or row) sum by the square root of the grand total
- $a_{ij} = (\Sigma^k_i \, r_{xi\ xj}) \, / \, (\sqrt{\Sigma^k_i \, \Sigma^k_i \, r_{xi\ xj}})$
  - It should be clear that the loadings thus obtained are the correlation coefficients of the respective indicator with the composite index

Method of PCA

- **Step 5** The P_1 or the first Principal Component is constructed in the following way:

$$P_1 = a_{11}x_1 + a_{12}x_2 + \ldots\ldots\ldots\ldots + a_{1k}x_k$$

- **Step 6** The sum of the squares of the loading of the Principal Component is called the latent root of this component & are denoted by the Greek letter l with the subscript of the Principal Component to which it refers. For example, the latent root of the first Principal Component P_1 is

- $l_1 = [\text{latent root of } P_1] = \Sigma^k_i 1^2_I \quad = 1^2_1 + 1^2_2 + \ldots + 1^2_k$
  - Sum of the latent root of all the Principal Components would be equal to the number of indicators: $\Sigma^k_i l_i = k$

Sampling Methodology

Sampling Methodology

- **Sampling based on:**
  - Aggregate Industry Level
  - Individual Product Level

- Aggregate Sectors selected on the basis of **High Trade Potential and High Current Trade**

- **Export sample at Aggregate Level** - Machinery, Chemicals, Textiles, Plastics and Rubber, Vegetable Products, Prepared Foodstuffs and Base metal articles.

- **Import Sample at Aggregate Level** - Machinery, Chemicals, Textiles, Plastics and Rubber, Vegetable Products, Prepared Foodstuffs, Surgical instruments and Base metal articles

Export Sample at Aggregate Sector Level

Industry Classification	Export Potential (US$ Million)	Current Exports (US$ Million)	Share of the Sector in total Export Potential (%)	Share of the Sector in Current Export (%)
VEGETABLE PRODUCTS	724.4	330.5	5	20
PREPARED FOODSTUFFS	237.3	213.8	1	13
PRODUCTS OF THE CHEMICAL OR ALLIED INDUSTRIES	2,744.1	419.3	17	25
PLASTICS AND ARTICLES THEREOF; RUBBER AND ARTICLES THEREOF	1,519.8	140.1	10	8
TEXTILES AND TEXTILE ARTICLES	1,966.0	393.8	12	24
MACHINERY AND MECHANICAL APPLIANCES; ELECTRICAL EQUIPMENT;	3,986.5	27.4	25	2
BASE METALS AND ARTICLES OF BASE METAL	1,647.6	89.4	10	5

Import Sample at Aggregate Sector Level

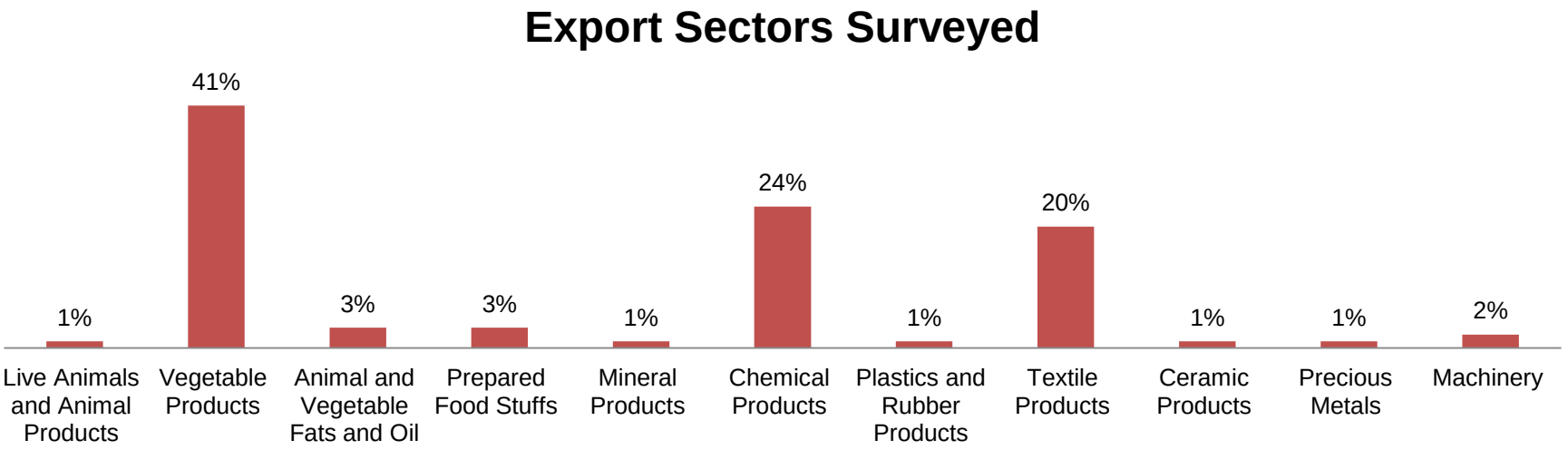
Industry Classification	Import Potential (US$ Million)	Current Imports (US$ Million)	Share of the Sector in Import Potential (%)	Share of the Sector in Current Imports (%)
VEGETABLE PRODUCTS	73	82	2	26
PREPARED FOODSTUFFS	181	2	5	1
PRODUCTS OF THE CHEMICAL OR ALLIED INDUSTRIES	300	30	8	10
PLASTICS AND ARTICLES THEREOF; RUBBER AND ARTICLES THEREOF	331	12	9	4
TEXTILES AND TEXTILE ARTICLES	846	39	22	12
MACHINERY AND MECHANICAL APPLIANCES; ELECTRICAL EQUIPMENT	338	10	9	3
MEDICAL OR SURGICAL INSTRUMENTS AND APPARATUS	300	6	8	2
BASE METALS AND ARTICLES OF BASE METAL	438	33	11	11

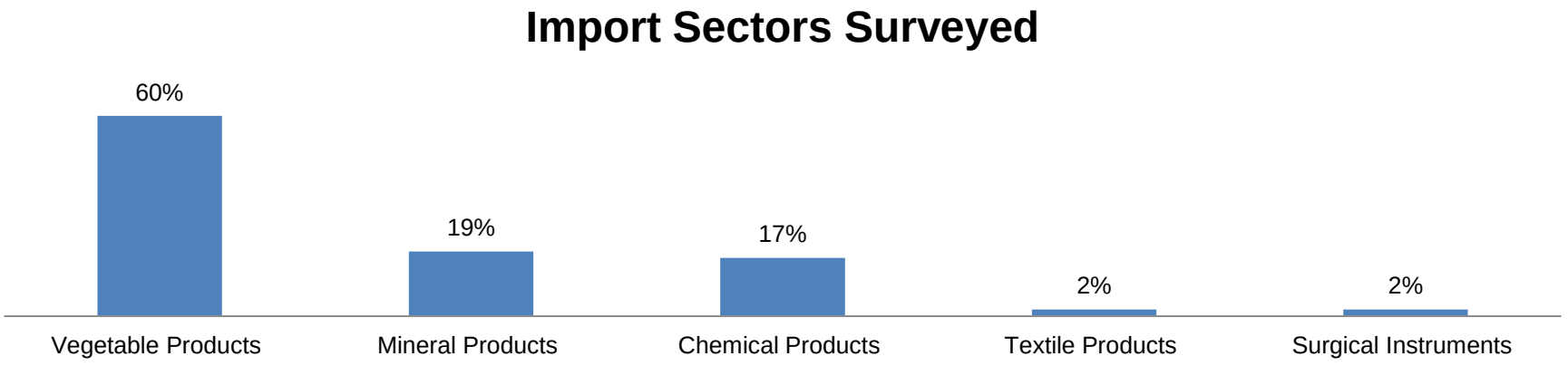
Sampling Methodology (Contd.)

- Product Sampling
  - Top 80% export and import products
  - RCA>1 and high export potential

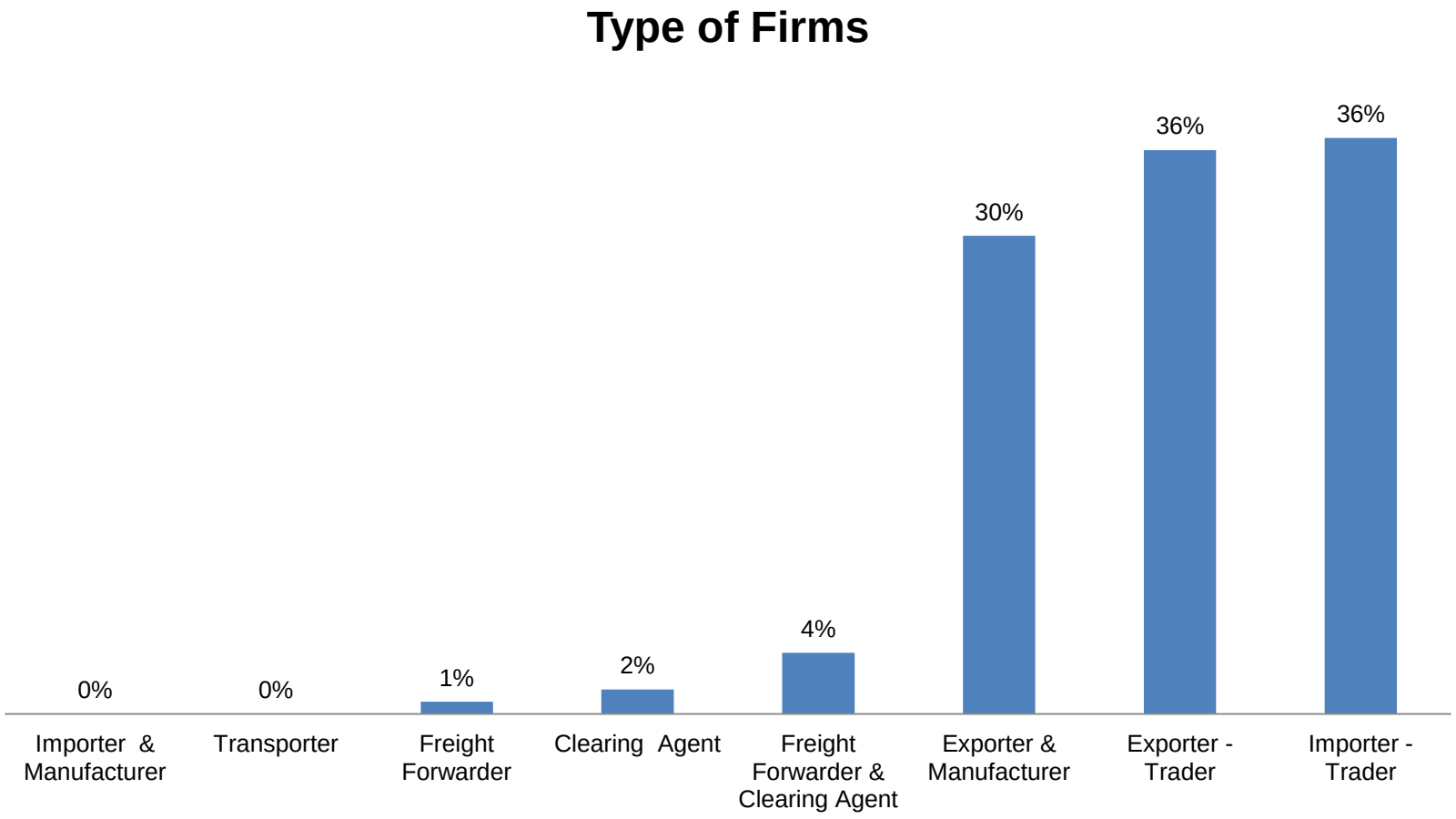
- 39 products were identified for the export sample
- 31 products were identified for the import sample.

Survey Sample – India

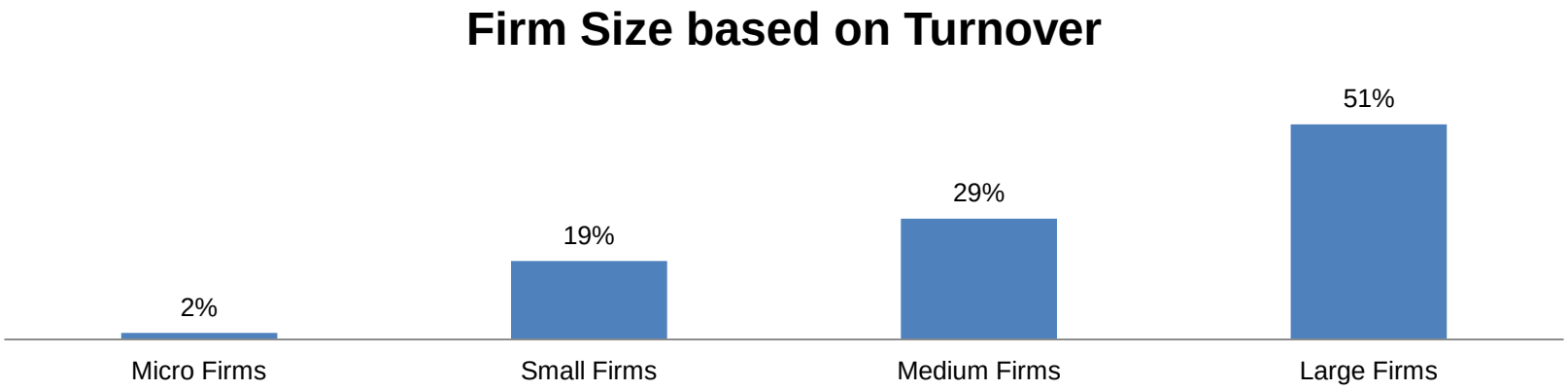


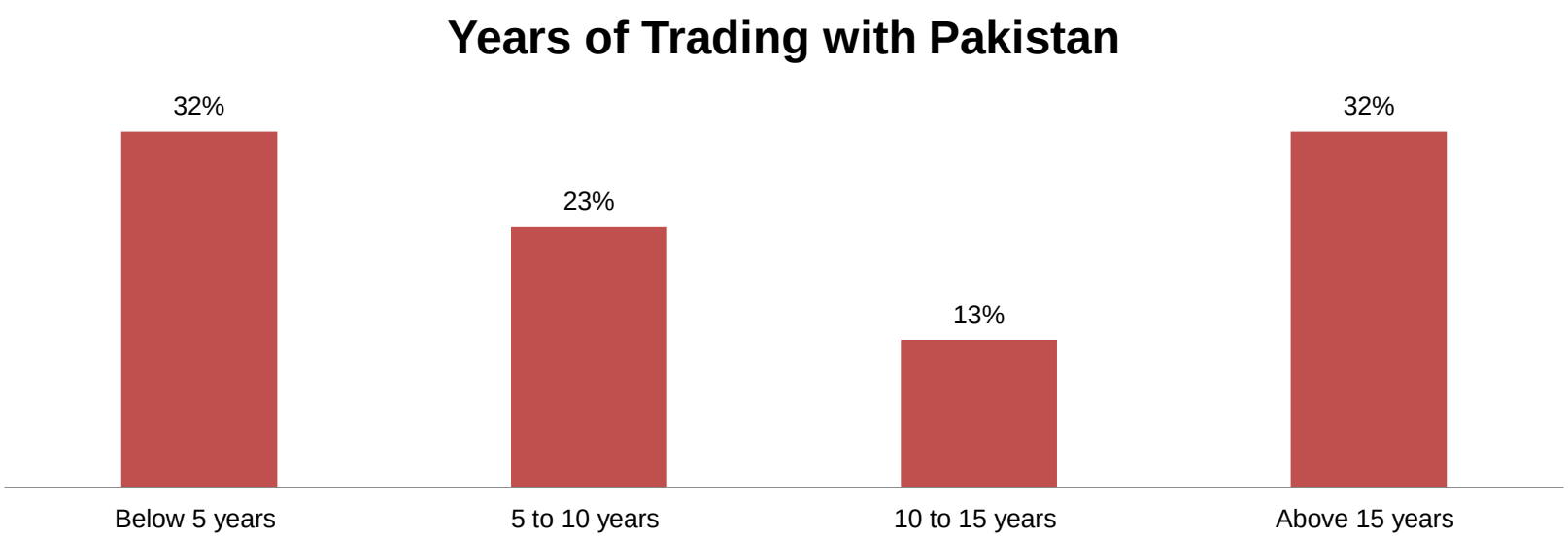


Survey Sample – India (Contd.)



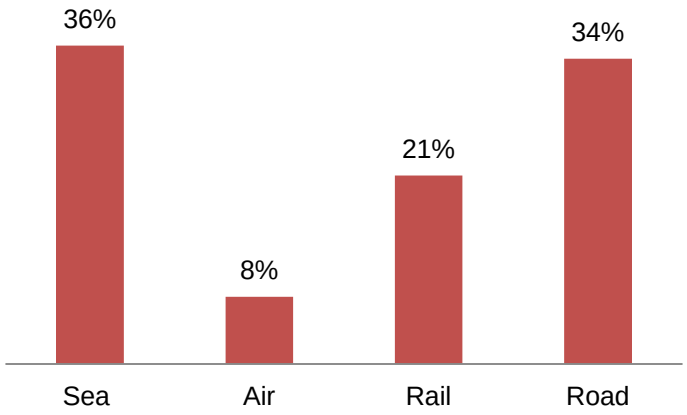
Survey Sample – India (Contd.)



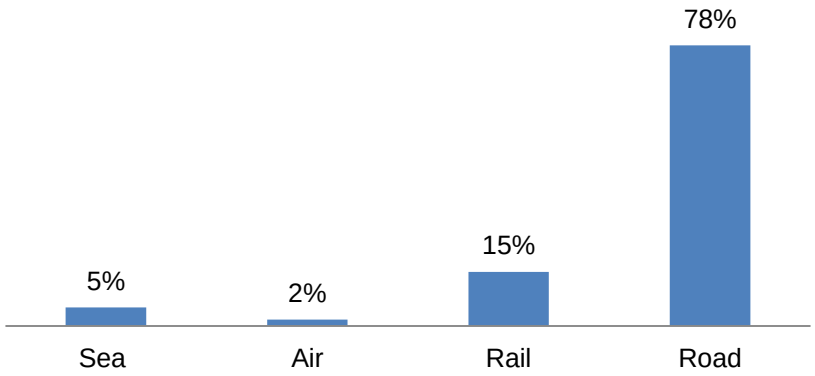


Survey Sample – India (Contd.)

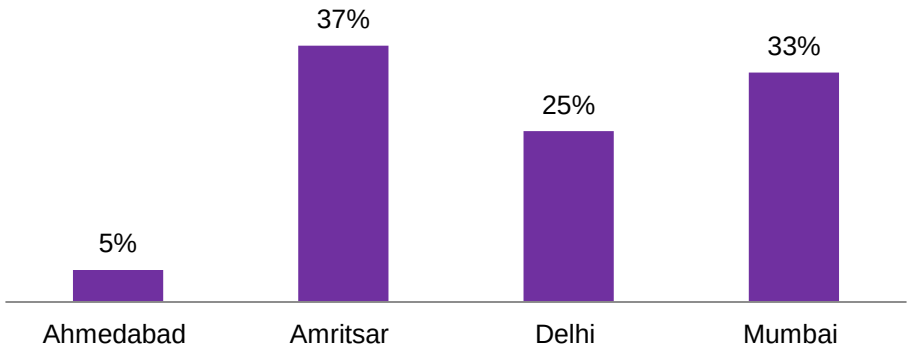
Export Mode Wise Share



Import Mode Wise Share



Cities Covered



Preliminary Results - TPS

- City Wise Overall Indicators
- Overall Indicators – India and Pakistan

City Wise Results

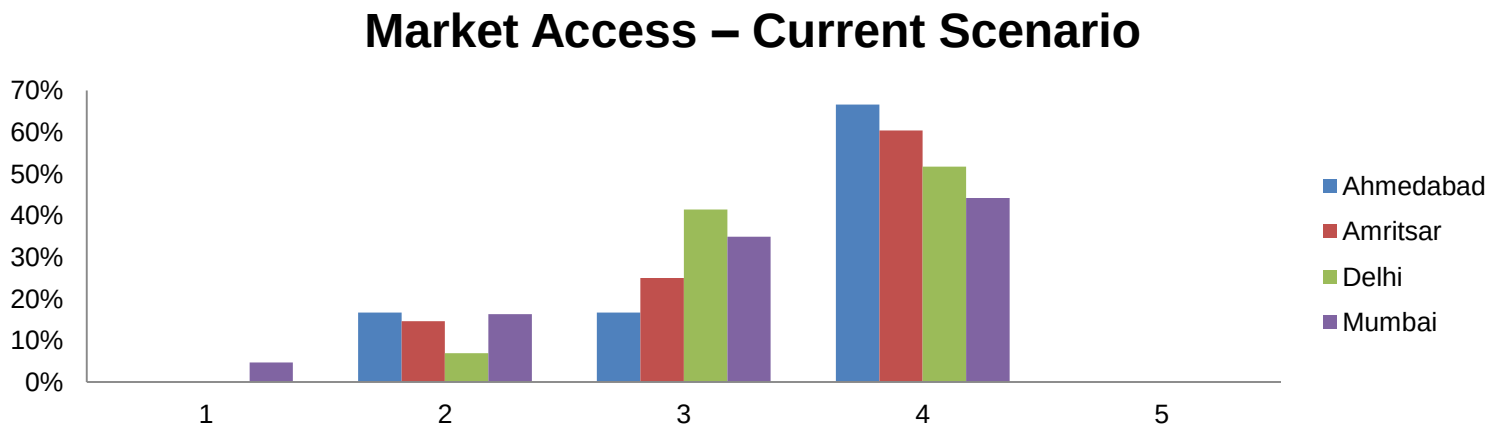
- **Amritsar and Delhi**
  - Majorly trading by the Road (Attari-Wagah) and Rail Route (Amritsar Railway Station)
  - Major commodities – Agricultural Commodities, Cement and Gypsum
- **Mumbai and Ahmadabad**
  - Majorly trading by the Sea (Mainly Nava Sheva) and Air Route (Mumbai Airport)
  - Major commodities – Manufacturing Commodities and some Agricultural items
- **City Perspectives**

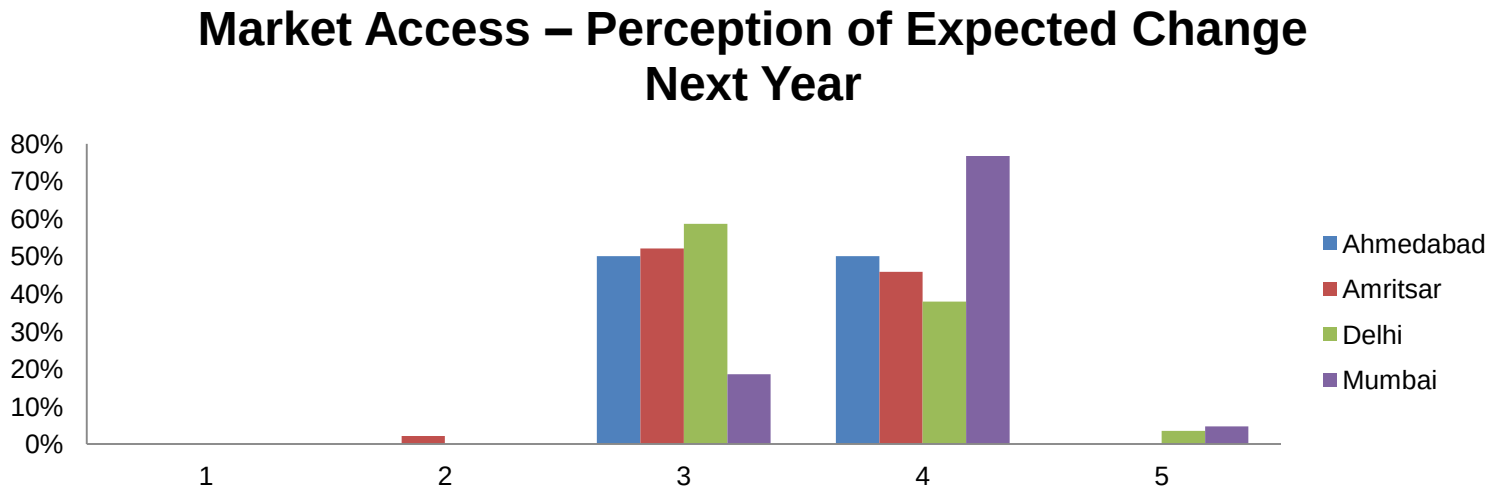
Rankings – Trade Perception Survey

- The ***Current Scenario*** is ranked as:
  - 1 – Very Bad/Very Low
  - 2 – Bad/Low
  - 3 – Average
  - 4 – Good/High
  - 5 – Very Good/Very High

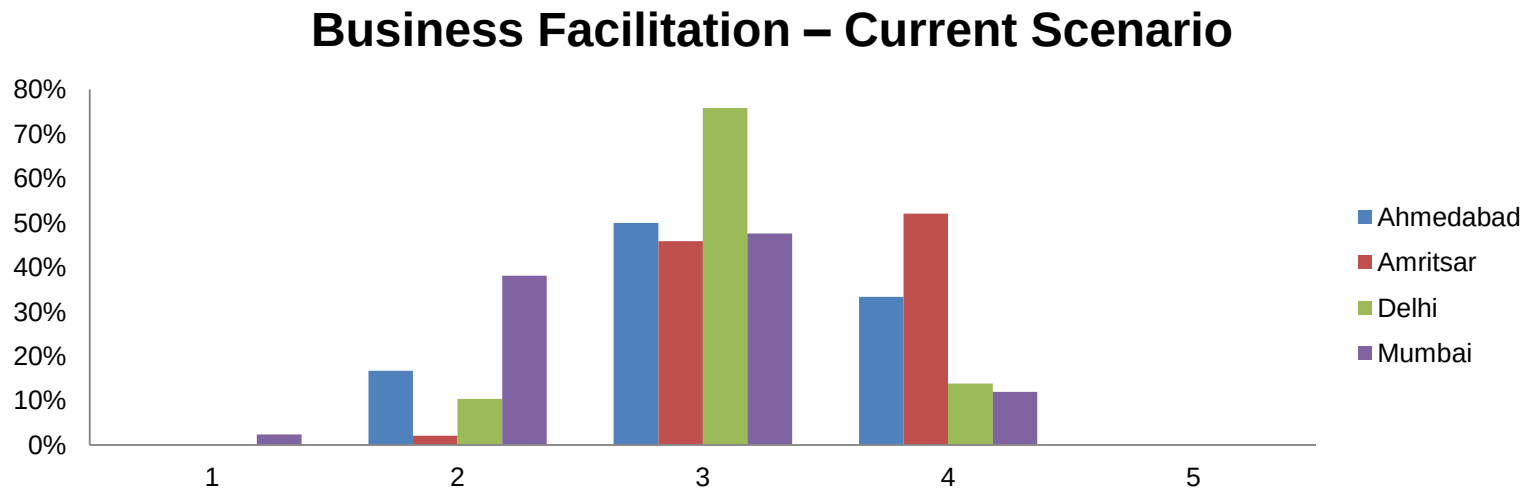
- The ***Perception of Expected Change Next Year*** is ranked as:
  - 1 – Drastically Reduce
  - 2 – Reduce
  - 3 – No Change
  - 4 – Increase
  - 5 – Significantly Increase

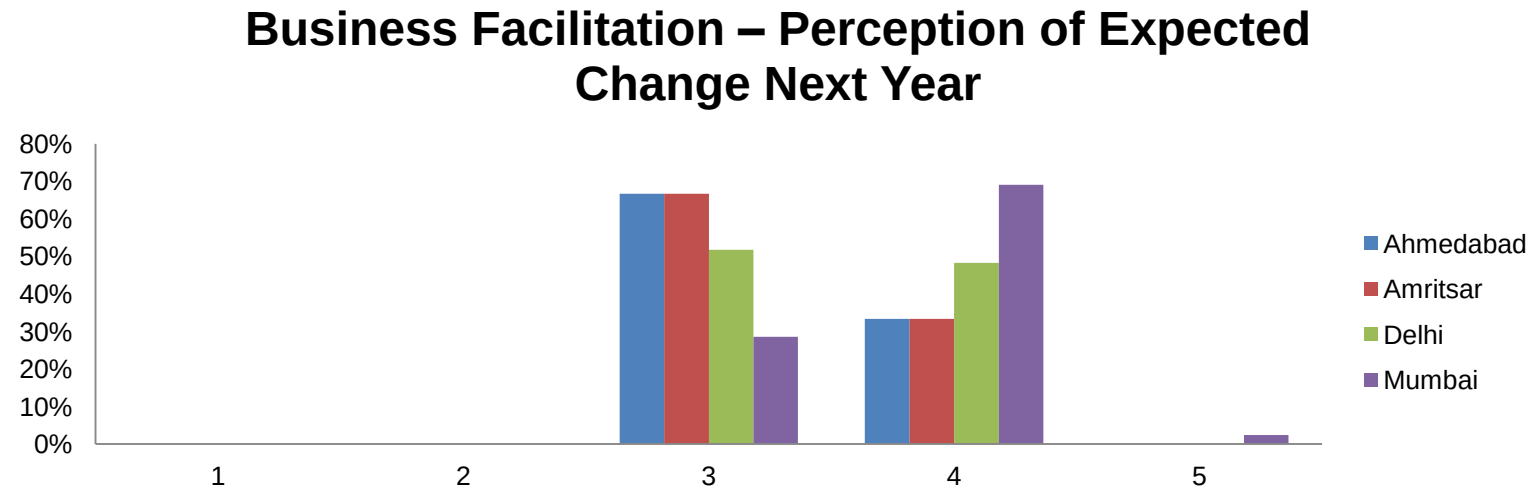
City Wise – Overall Indicators



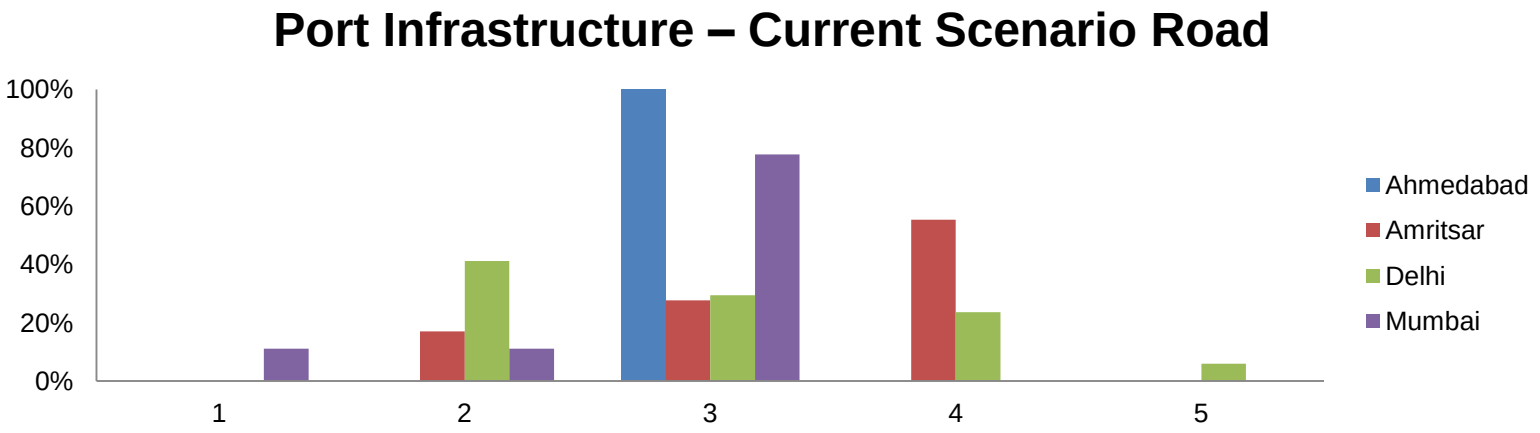


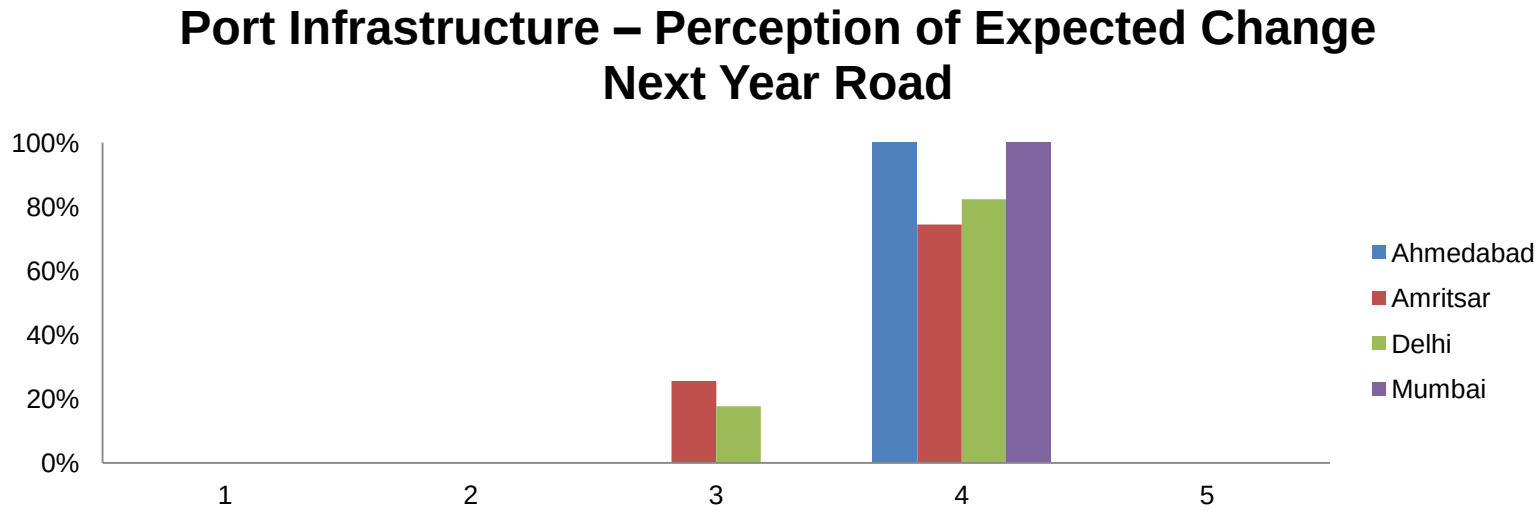
City Wise – Overall Indicators (Contd.)



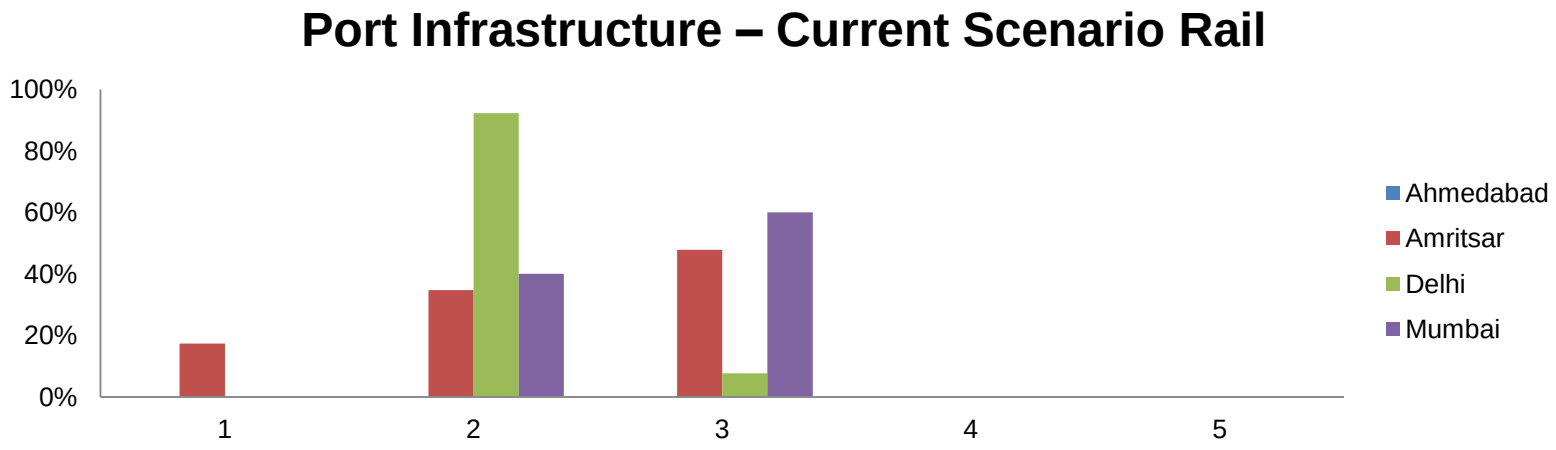


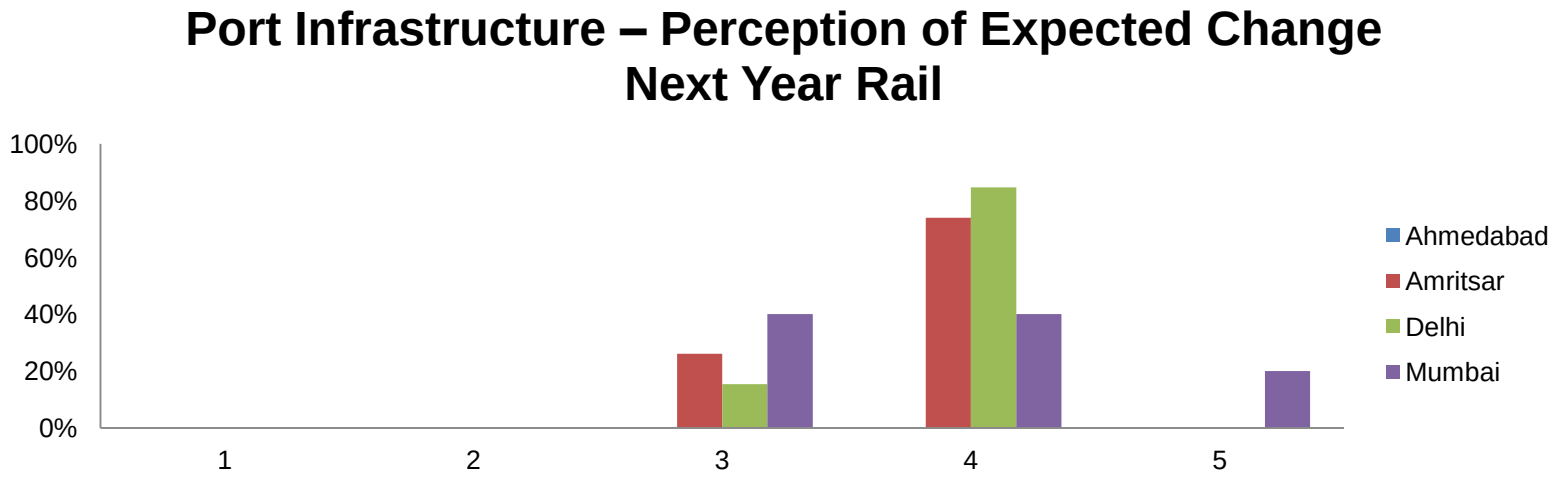
City Wise – Overall Indicators (Contd.)



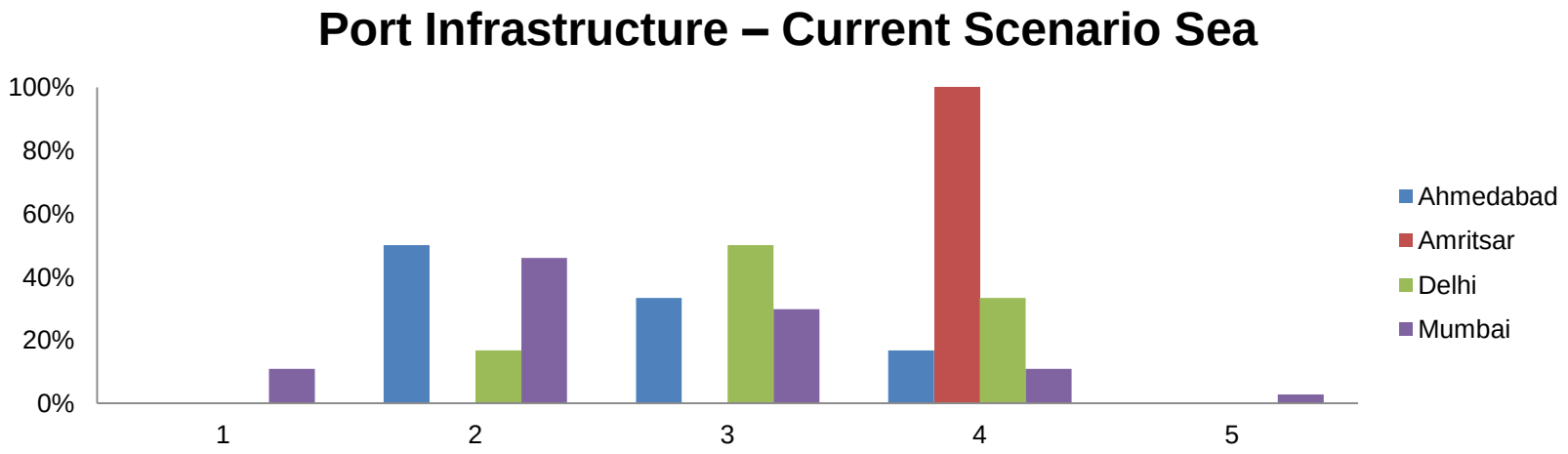


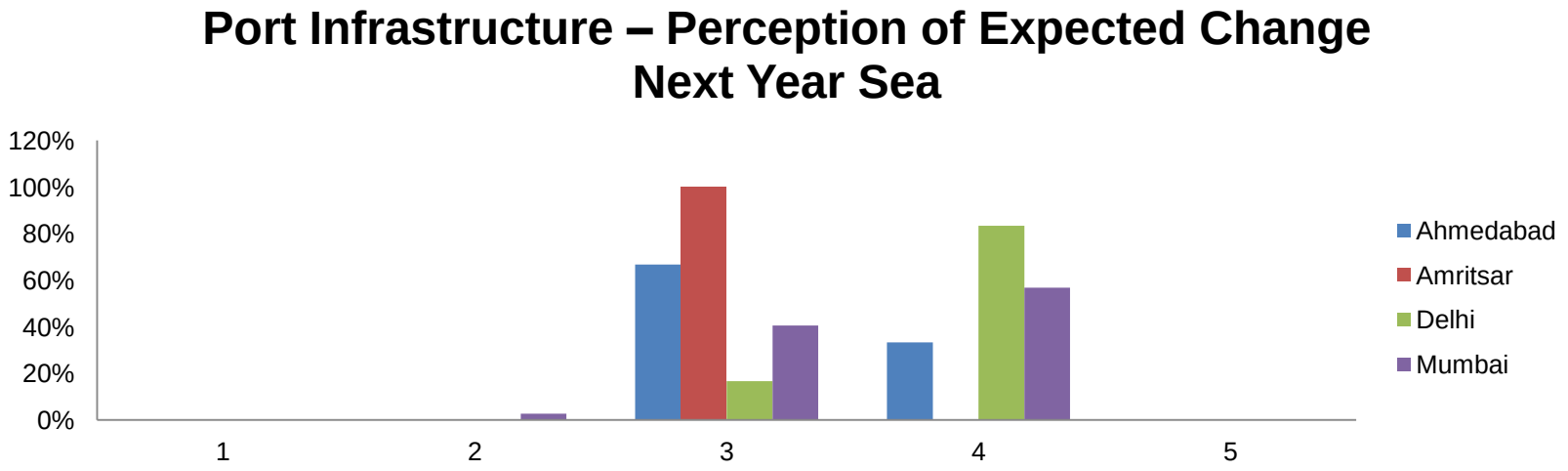
City Wise – Overall Indicators (Contd.)





City Wise – Overall Indicators (Contd.)





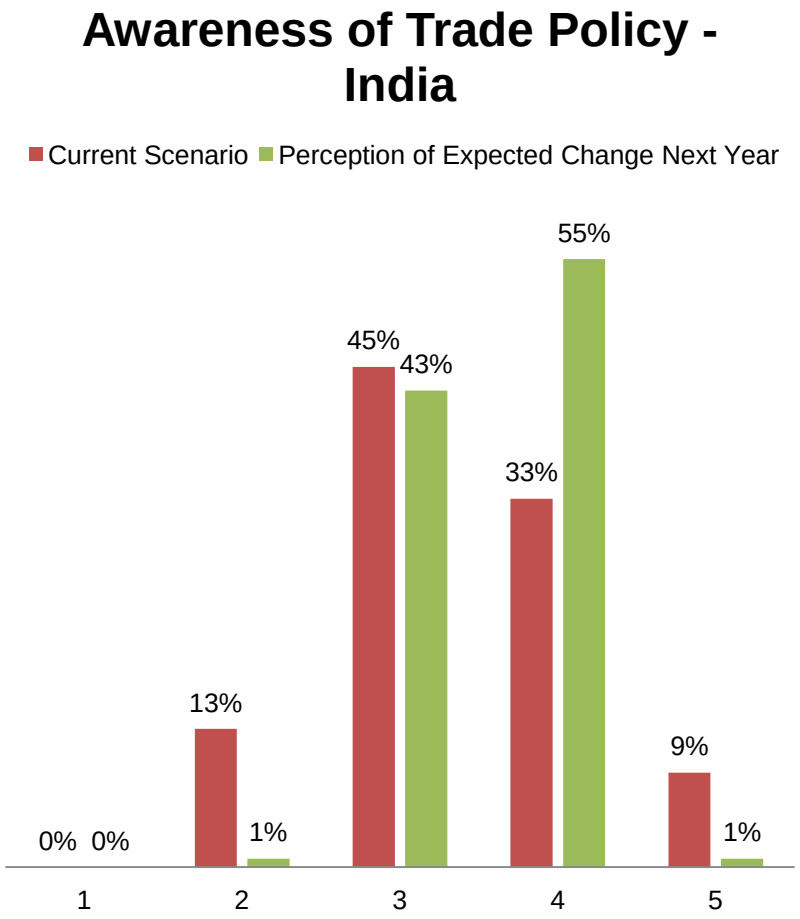
Overall Indicators – India & Pakistan

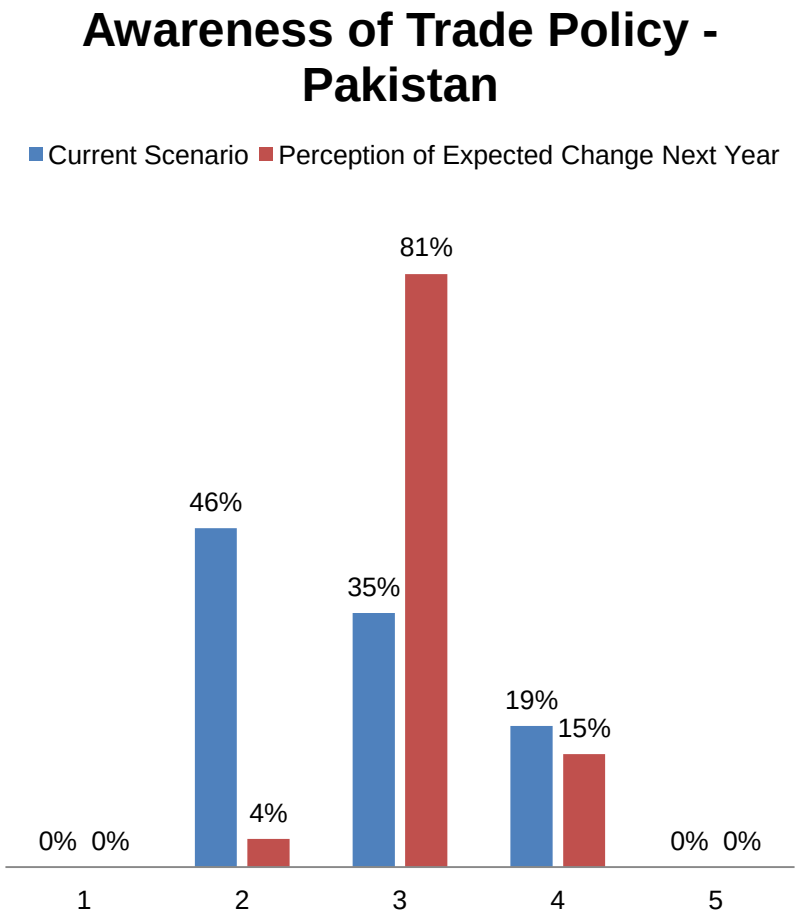
- **Awareness of Trade Policy**
  - A higher percentage of traders from Pakistan felt that they were less aware of India-Pakistan trade policies compared to India
- **Market Access**
  - A higher percentage of traders from India were bullish about Market Access vis-à-vis Pakistan
- **Meeting Standards**
  - Complying to product standards was not a barrier for traders from both the countries.
- **Efficiency of Custom Officials**
  - Efficiency of Customs at ***Land Border -*** both traders from India and Pakistan reported to be bad while the ***Sea Port*** was reported to be the Good.
- **Infrastructure at Ports**
  - Traders from Pakistan reported that the infrastructure at Rail and Road was bad while traders from India reported that the infrastructure at Rail was bad.

Sub-Indicators – India

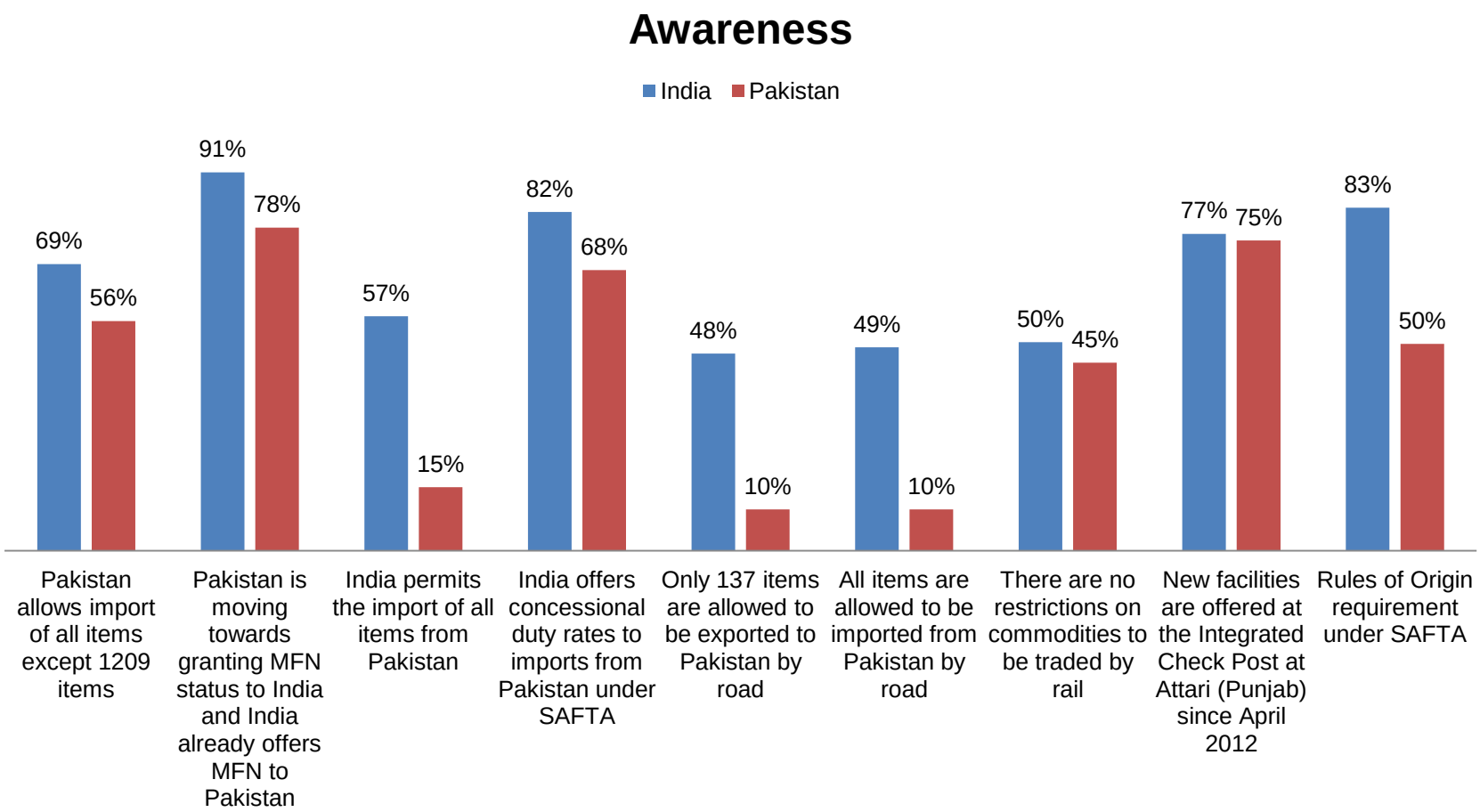
- A majority of Exporters and Importers felt that Political Events hamper trade. A point to be kept in mind is that the survey was conducted during and after the recent firing at LOC.
- Both Exporters and Importers feel that the volume of trade with Pakistan will grow.
- Both Exporters and Importers felt that Visas are hard to obtain but a large proportion are optimistic that it would become easier next year.
- Compared to Road and Sea a significant proportion of both Exporters and Importers felt the Road Access to the Railways was bad. While the Congestion at the Road LCS was perceived to be bad by a larger proportion of traders.

Overall Indicators – India & Pakistan (Contd.)

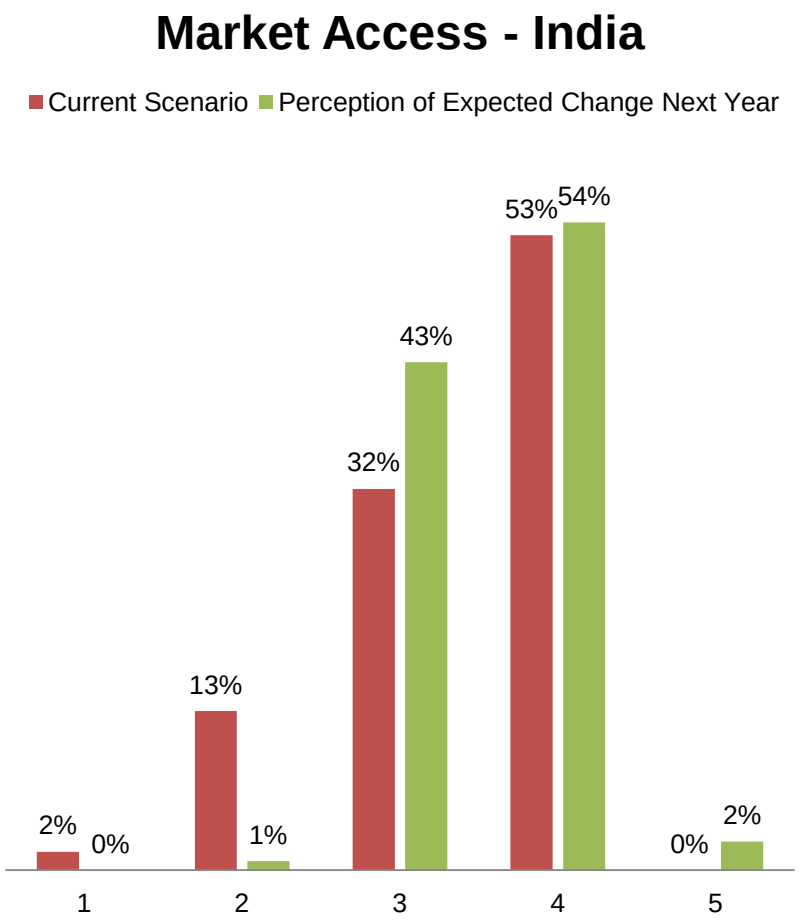


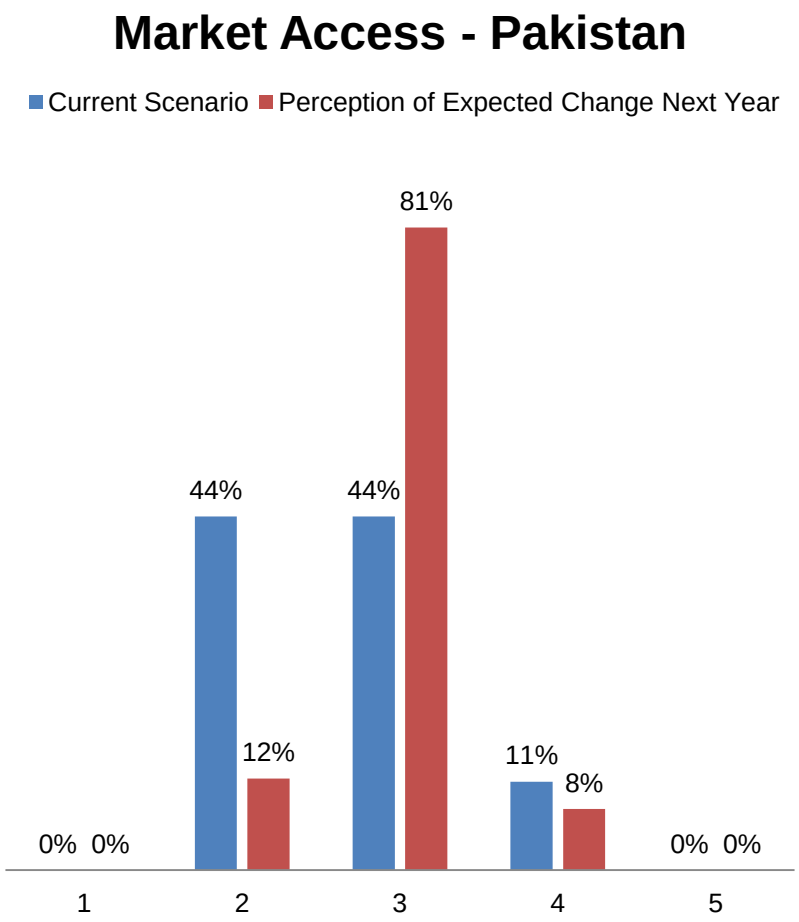


Sub Indicator – India & Pakistan

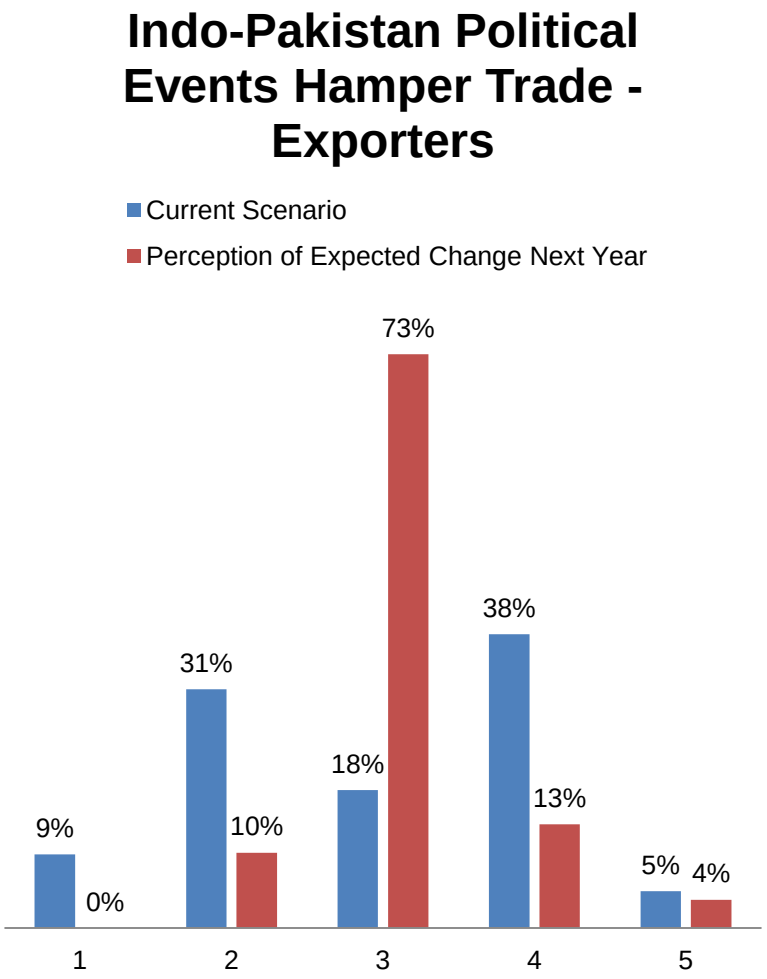


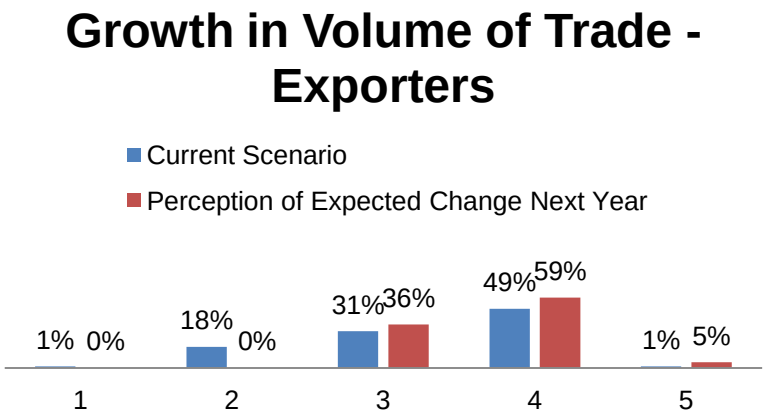
Overall Indicators – India & Pakistan (Contd.)

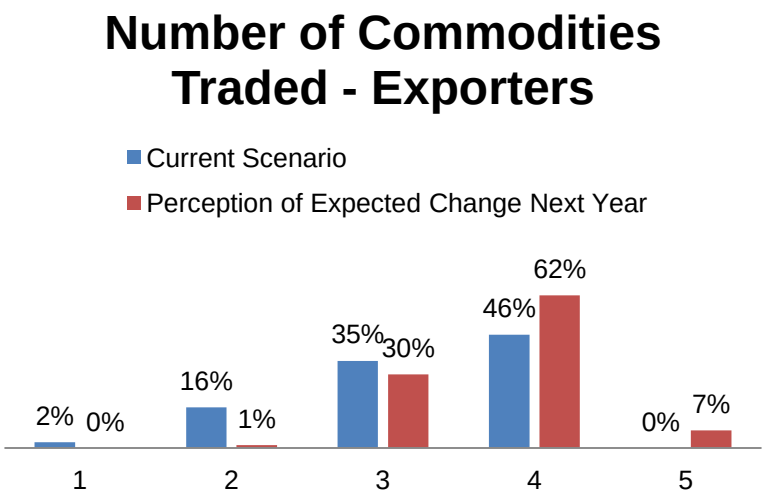




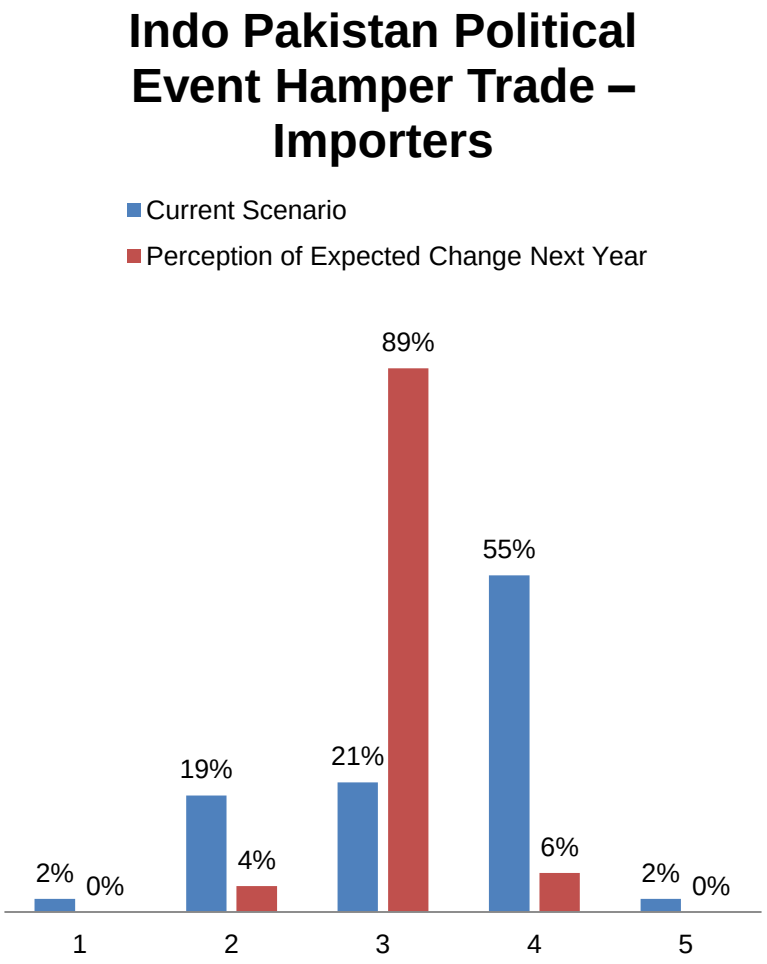
Sub Indicators – India

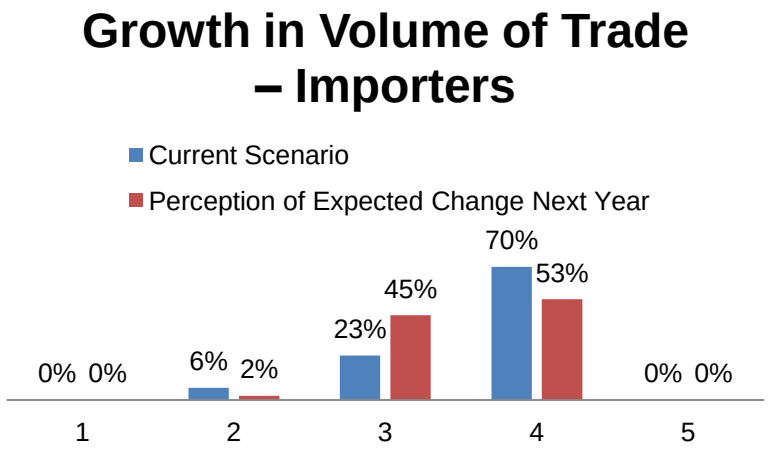


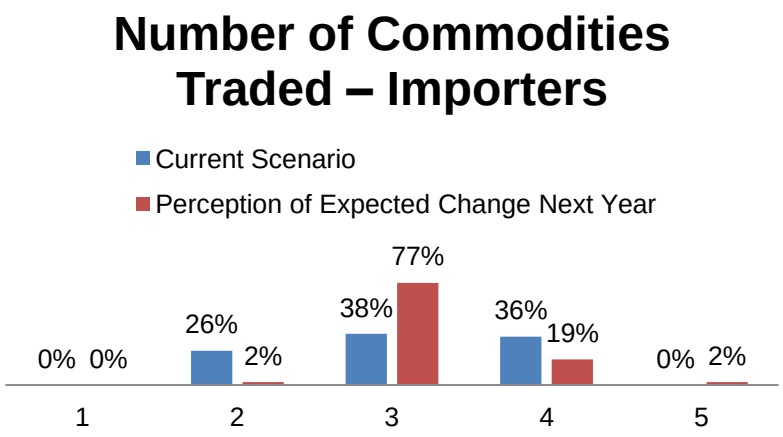




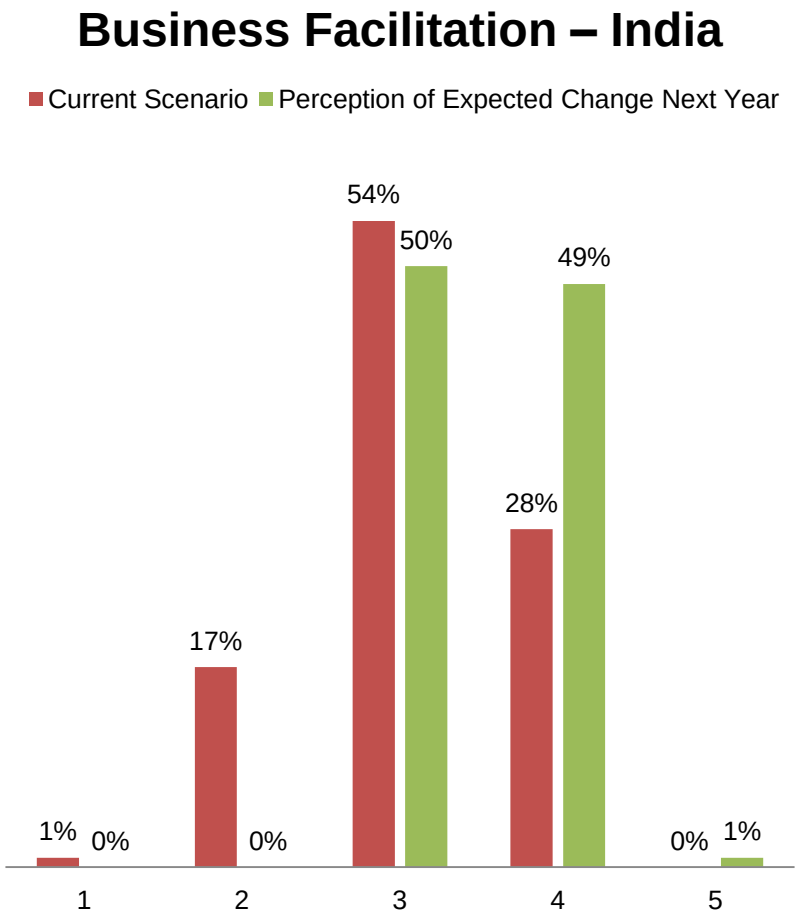
Sub Indicators – India (Contd.)

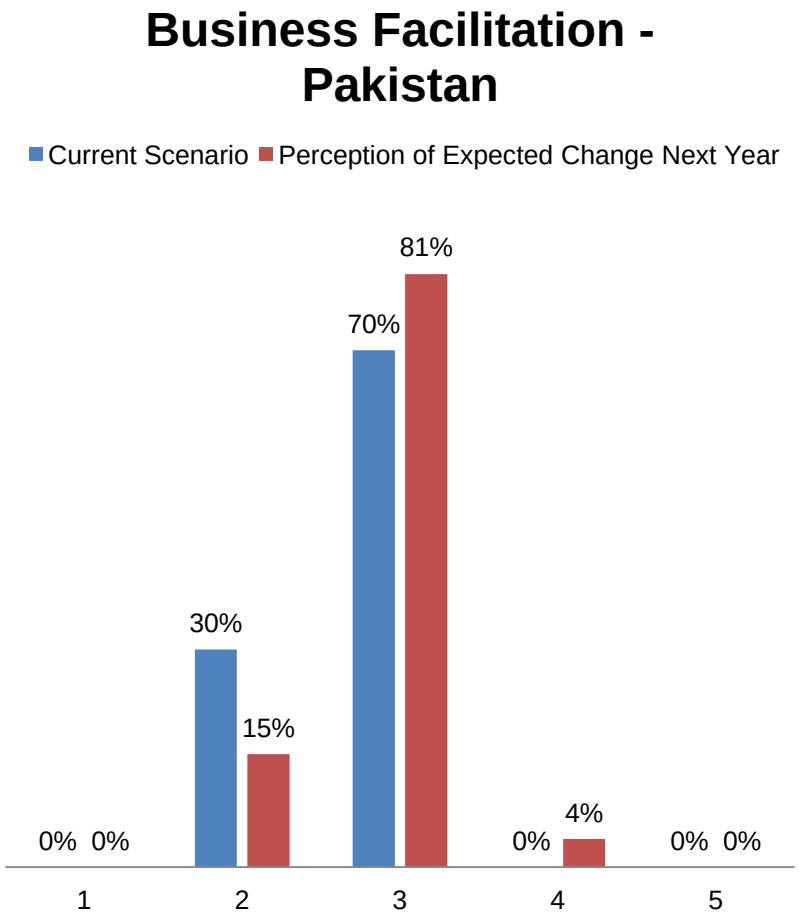




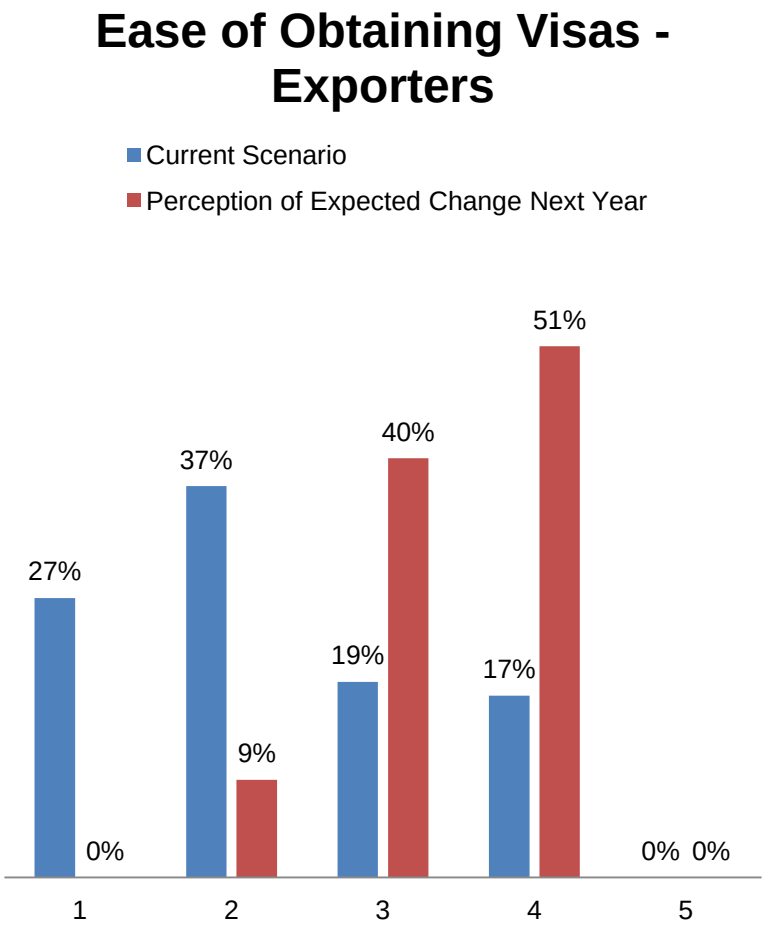


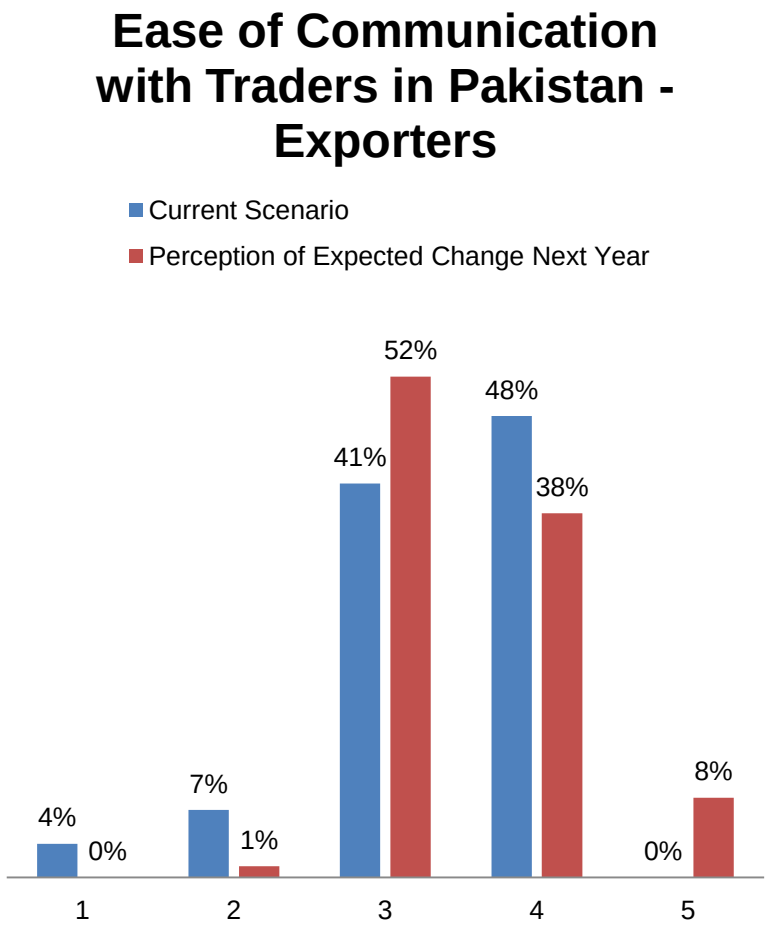
Overall Indicators – India & Pakistan (Contd.)



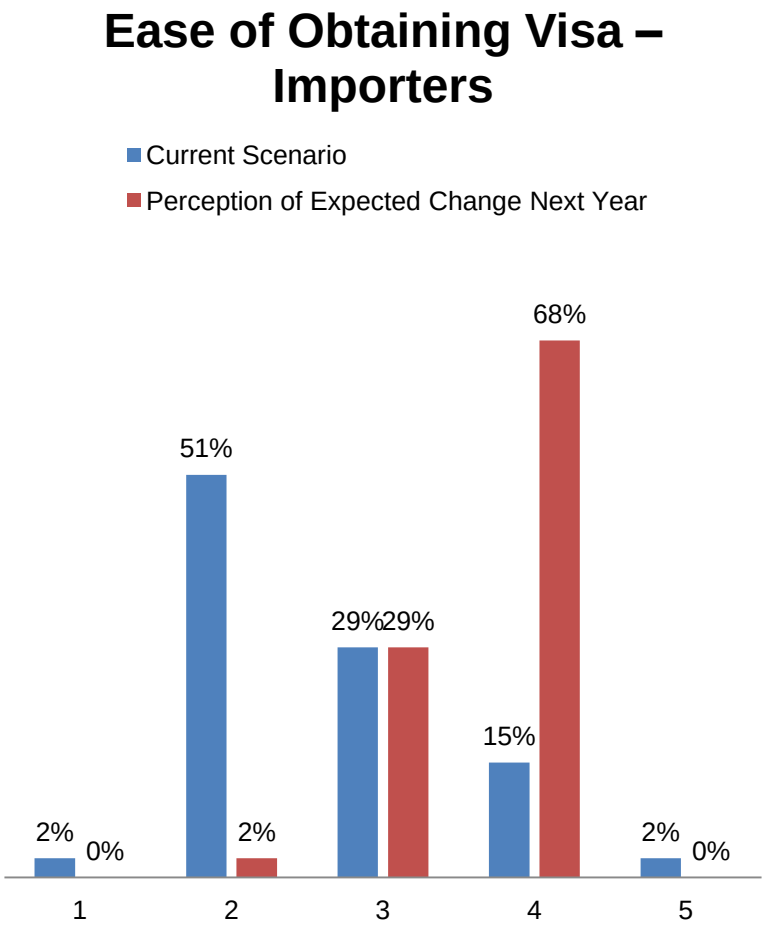


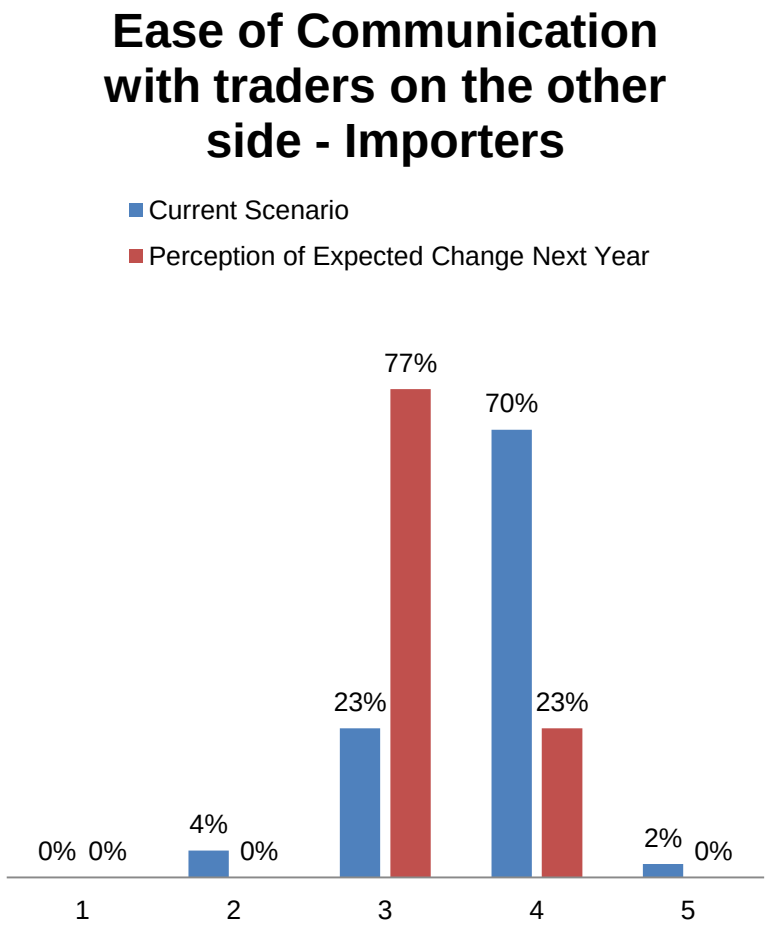
Sub Indicators – India (Contd.)



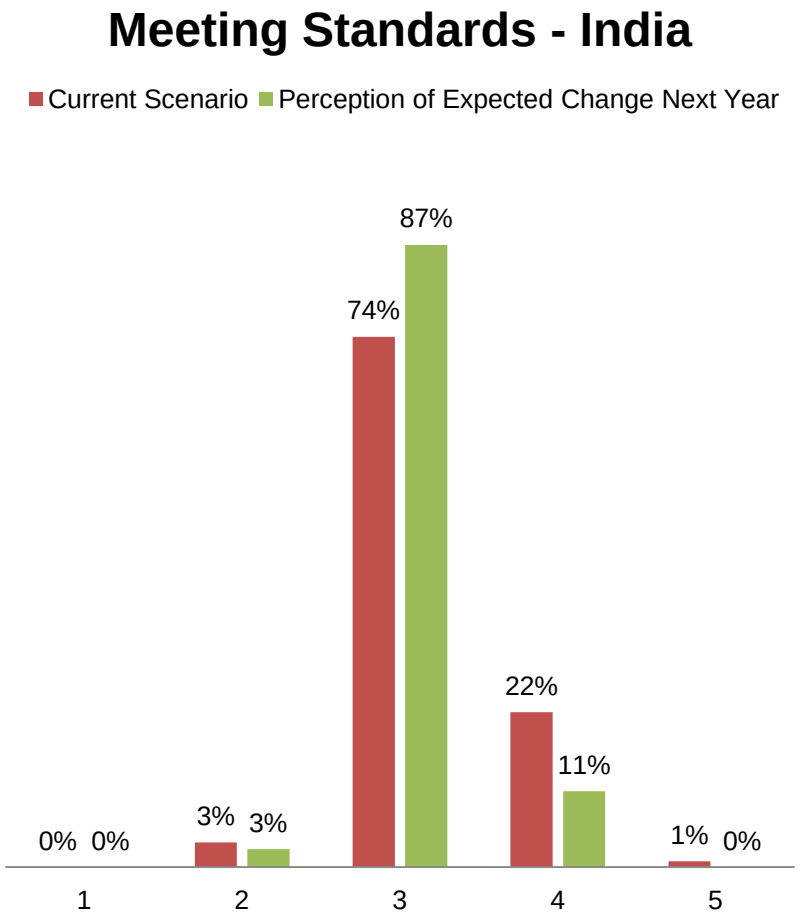


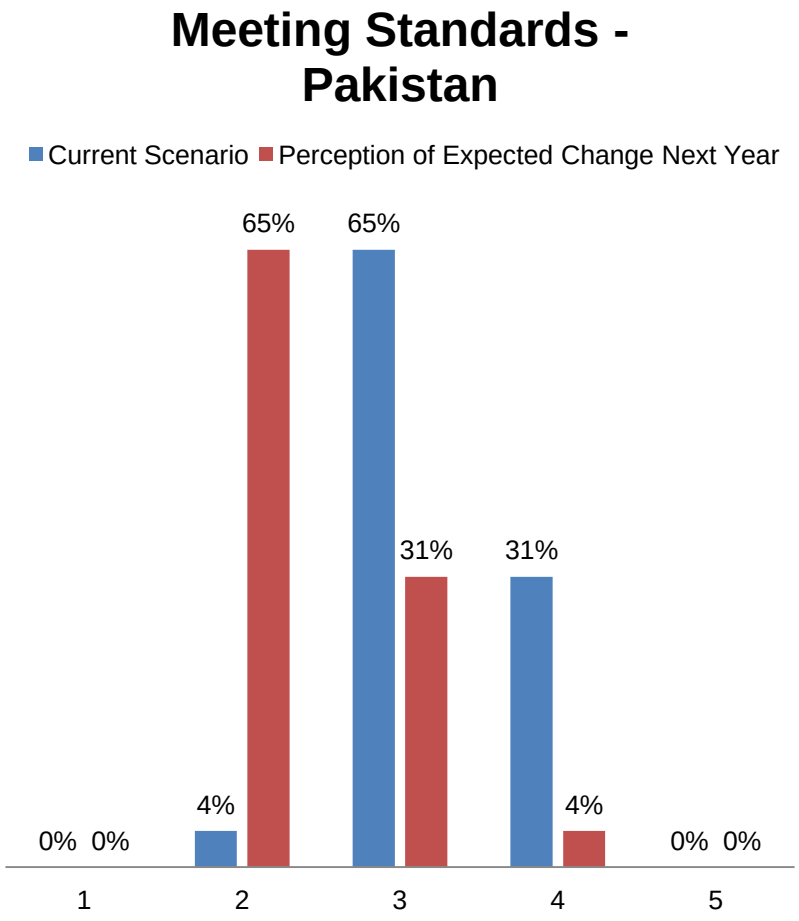
Sub Indicators – India (Contd.)



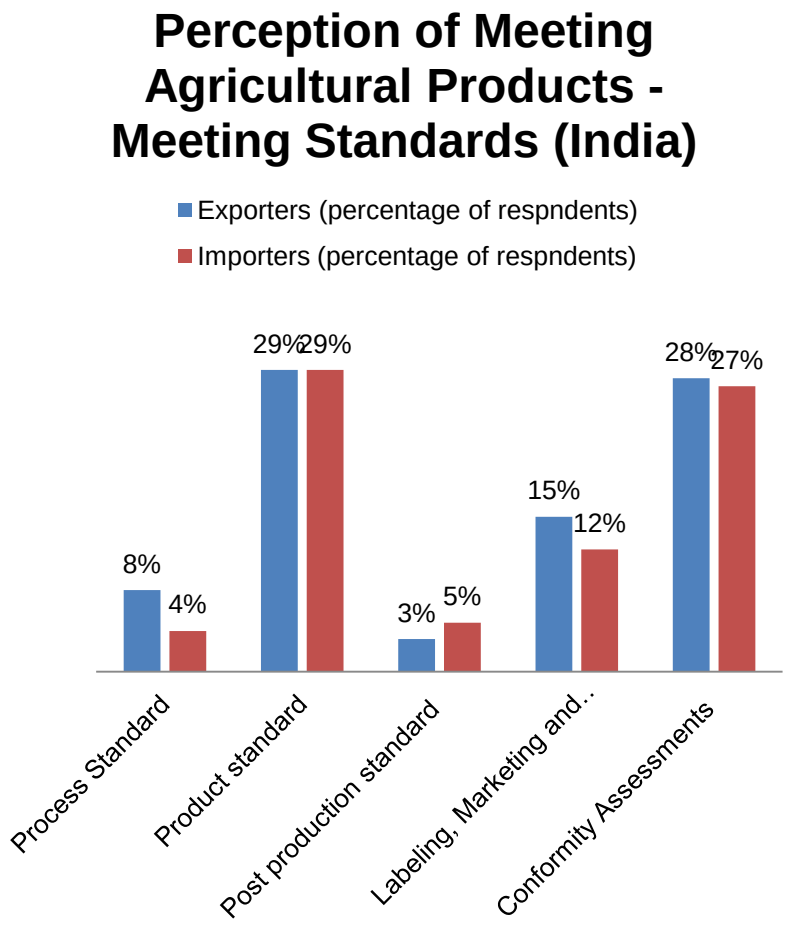


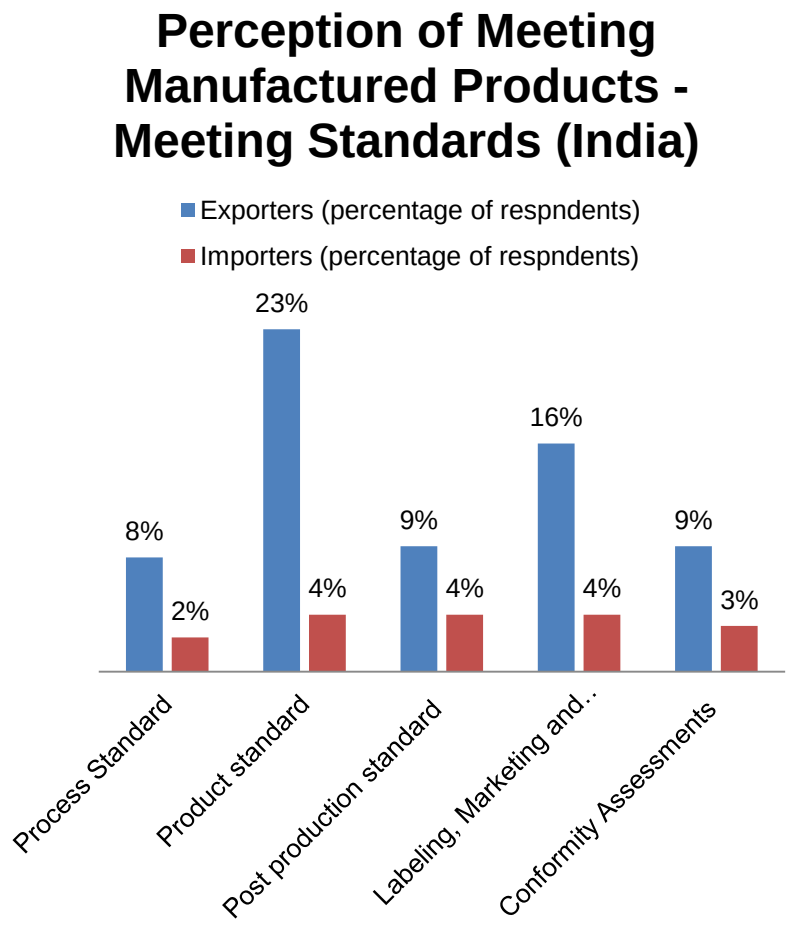
Overall Indicators – India & Pakistan (Contd.)



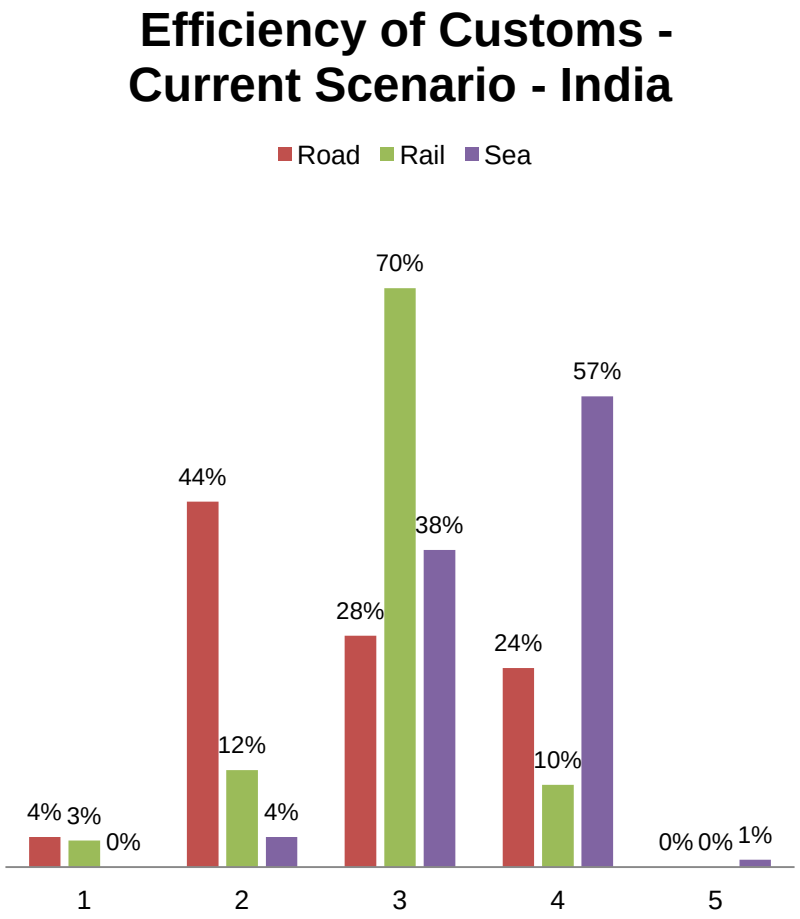


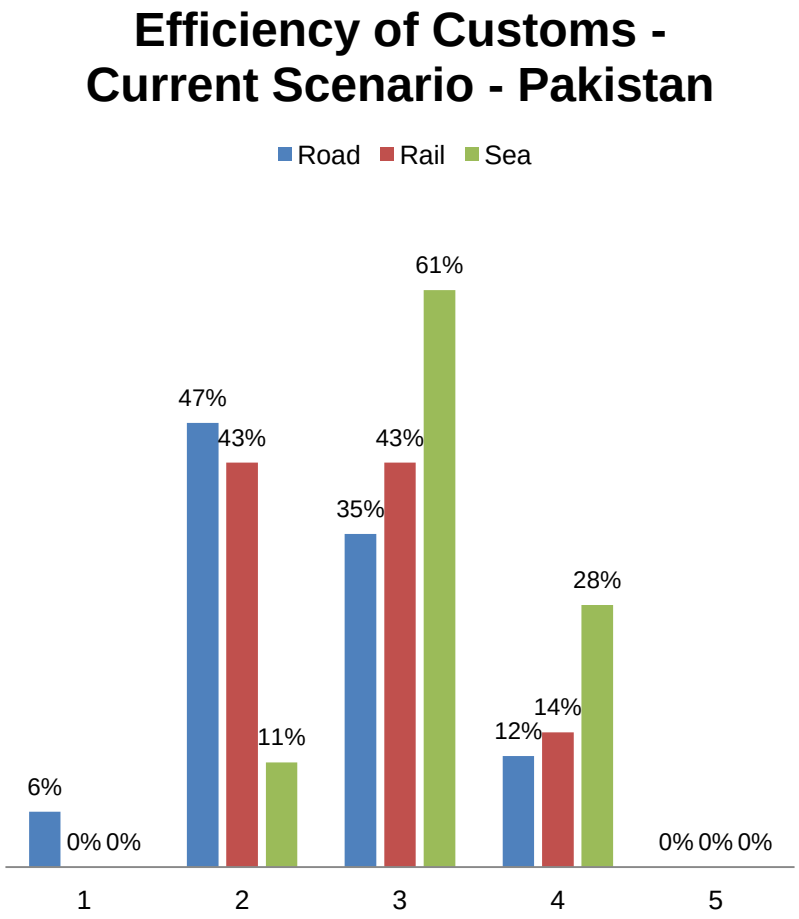
Sub Indicators – India (Contd.)





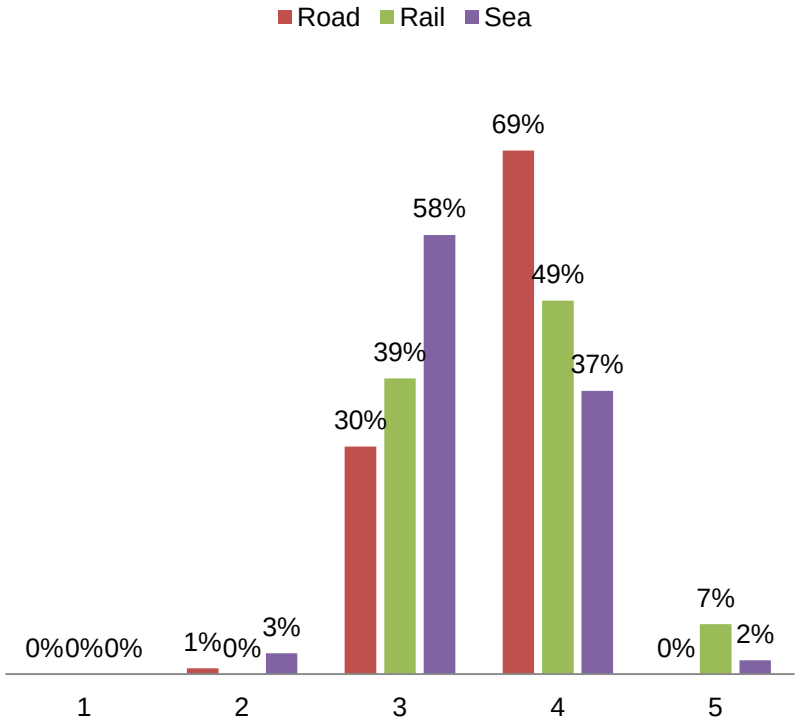
Overall Indicators – India & Pakistan (Contd.)



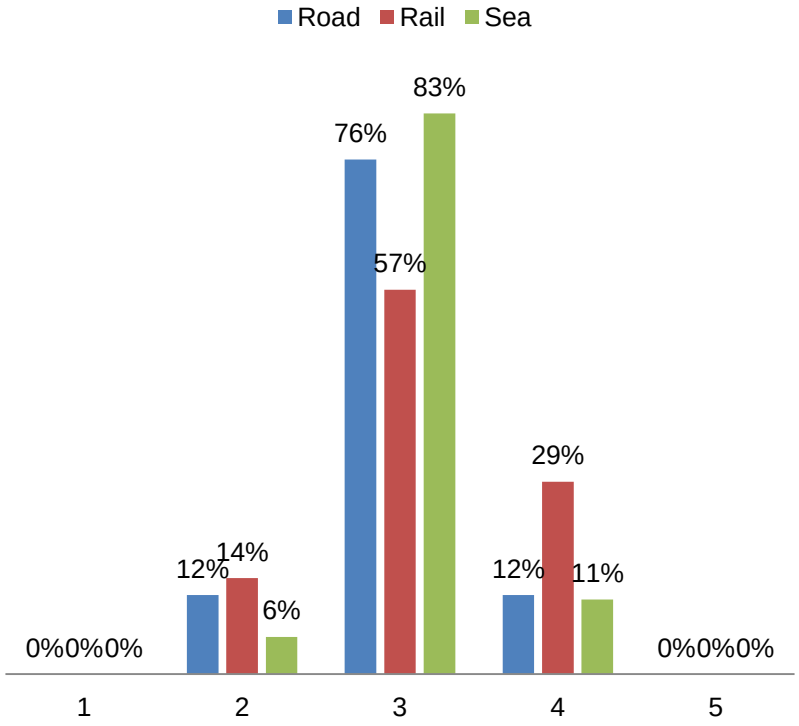


Overall Indicators – India & Pakistan (Contd.)

Efficiency of Customs – Perception of Expected Change Next Year - India

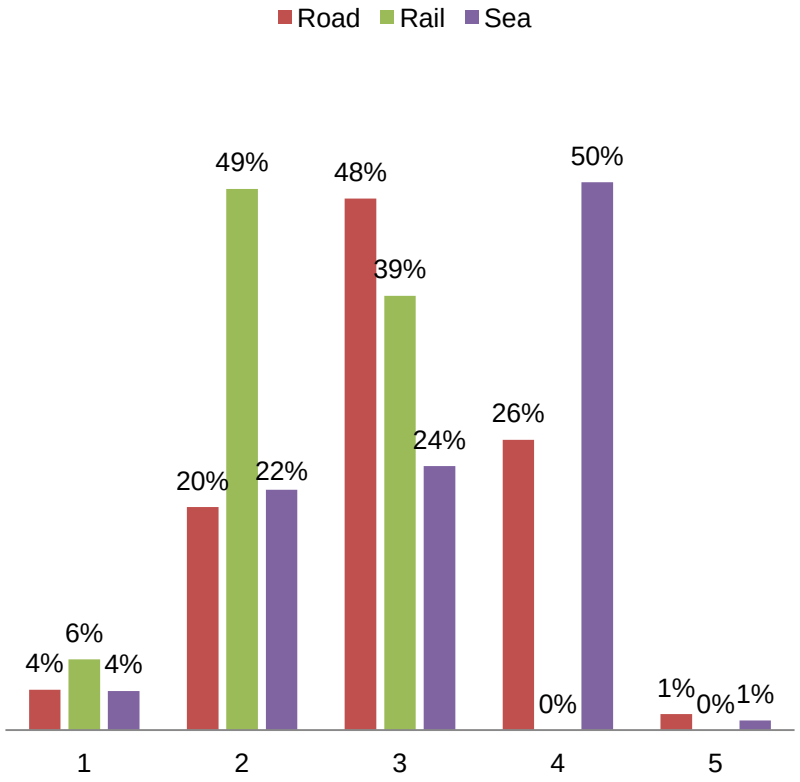


Efficiency of Customs - Perception of Expected Change Next Year - Pakistan

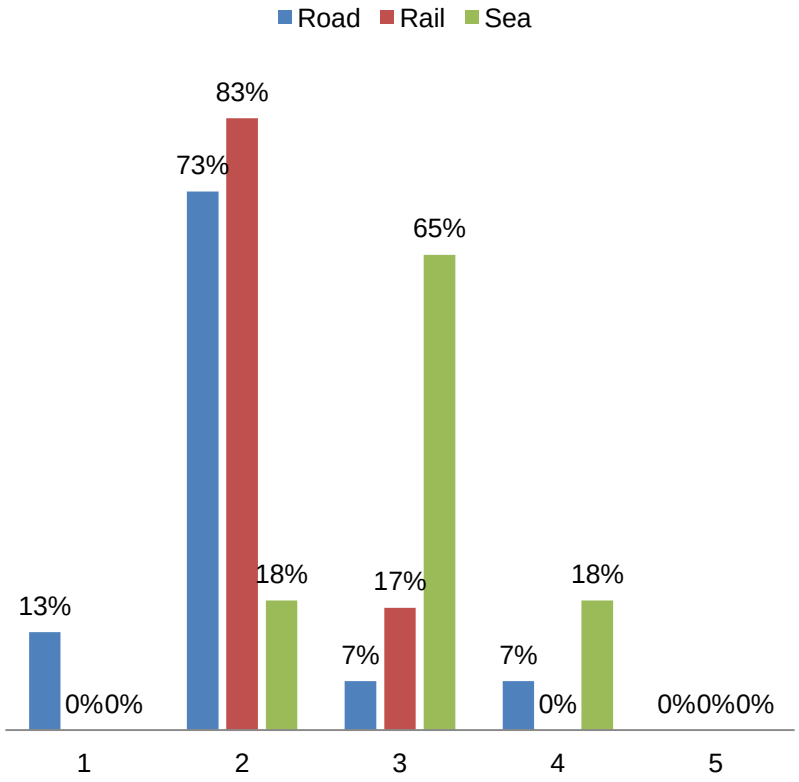


Overall Indicators – India & Pakistan (Contd.)

Infrastructure at Ports - Current Scenario - India

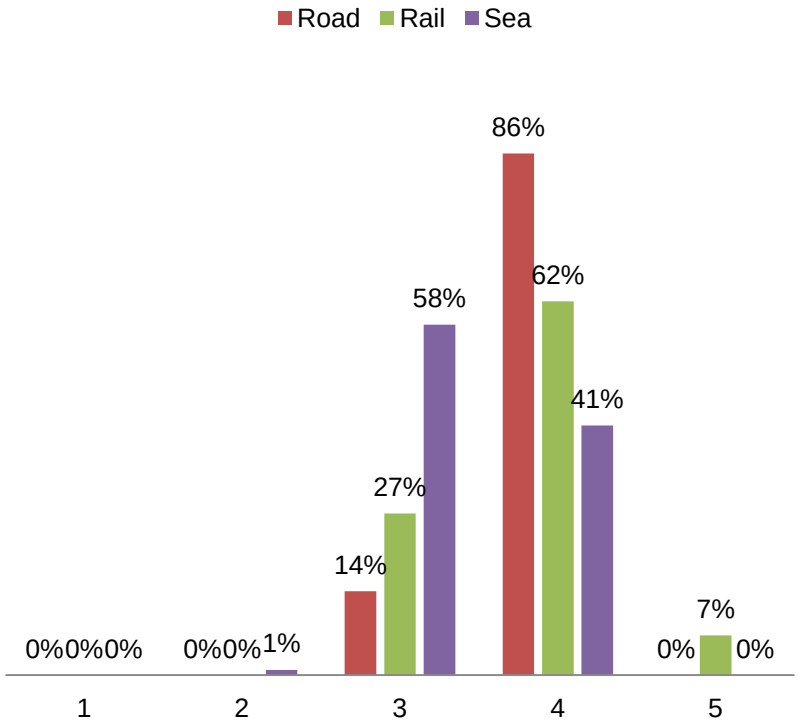


Infrastructure at Port - Current Scenario - Pakistan

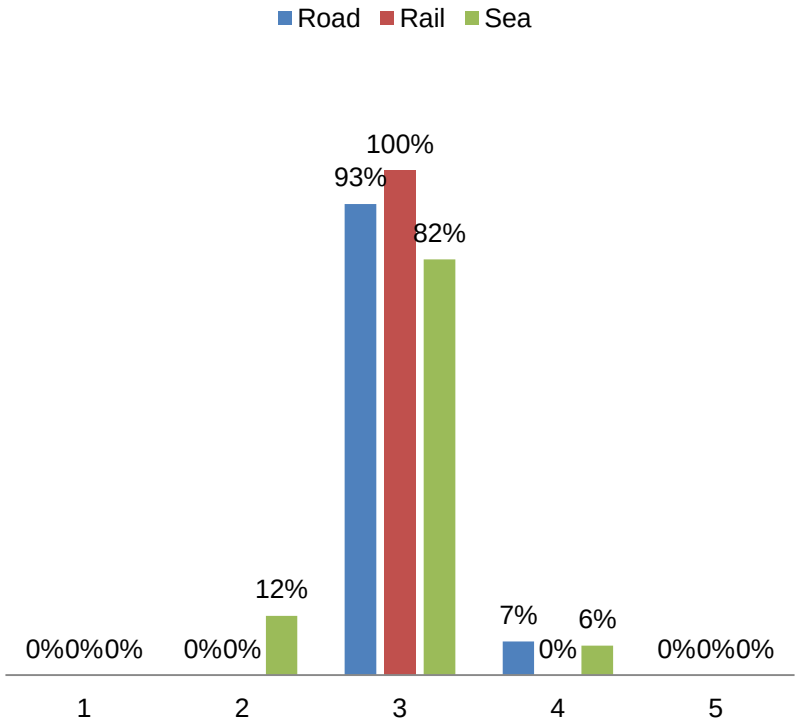


Overall Indicators – India & Pakistan (Contd.)

Infrastructure at Ports - Perception of Expected Change Next Year - India

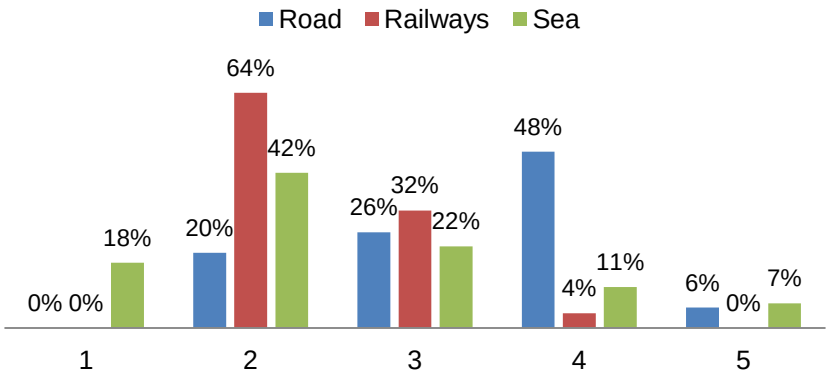


Infrastructure at Port - Perception of Expected Change Next Year - Pakistan

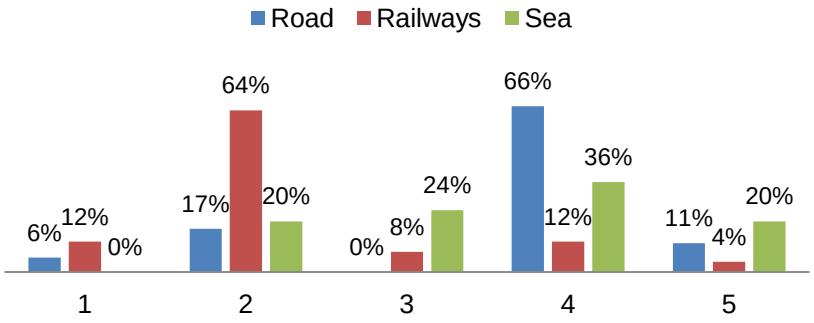


Sub Indicators – India (Contd.)

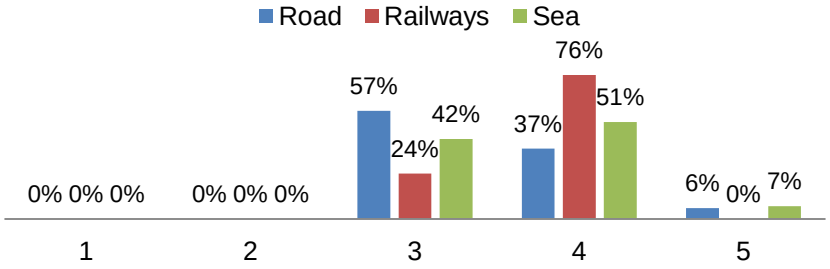
Road Access to the Port - Current Scenario - Exports



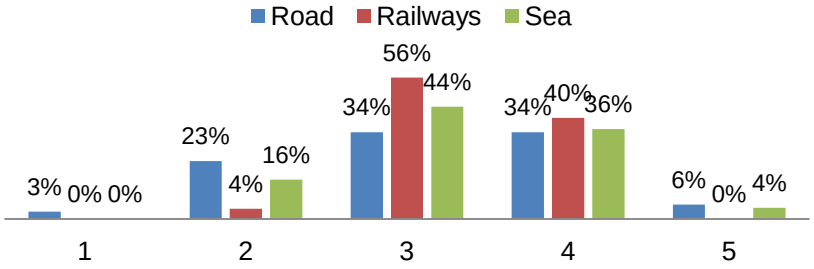
Congestion at the Port - Current Scenario - Exports



Road Access to the Port - Perception of Expected Change Next Year - Exports

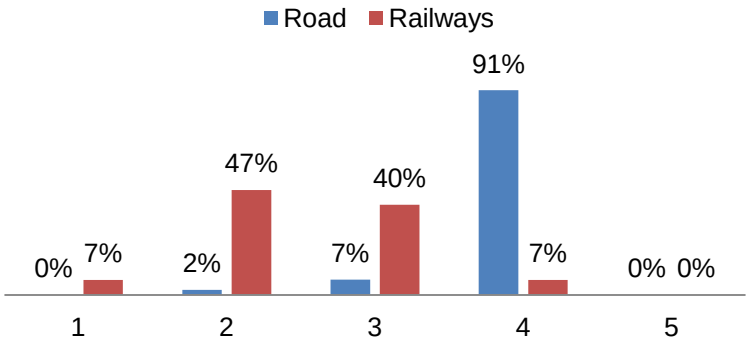


Congestion at Port - Perception of Change Next Year - Exports

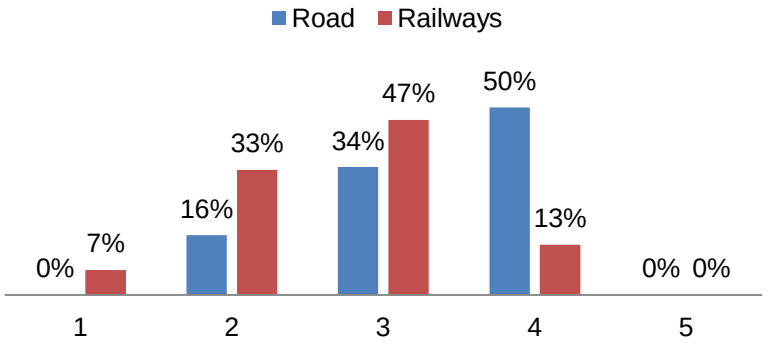


Sub Indicators – India (Contd.)

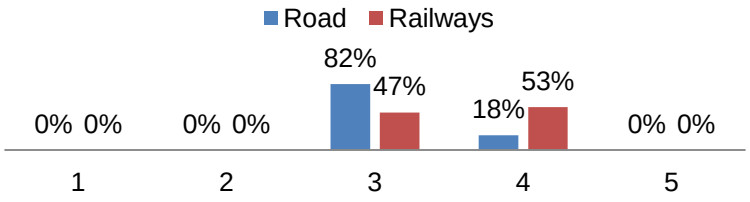
Road Access to the Port - Current Scenario – Imports



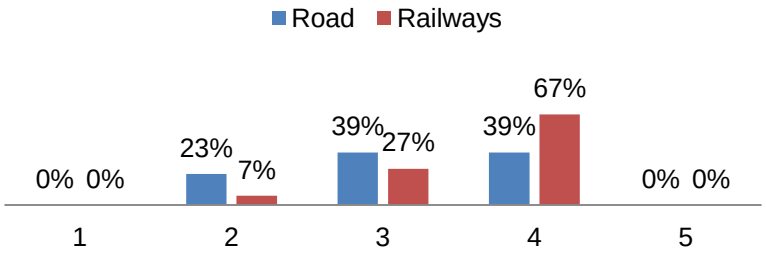
Congestion at the Border - Current Scenario – Imports



Road Access to the Port - Perception of Expected Change Next Year – Imports

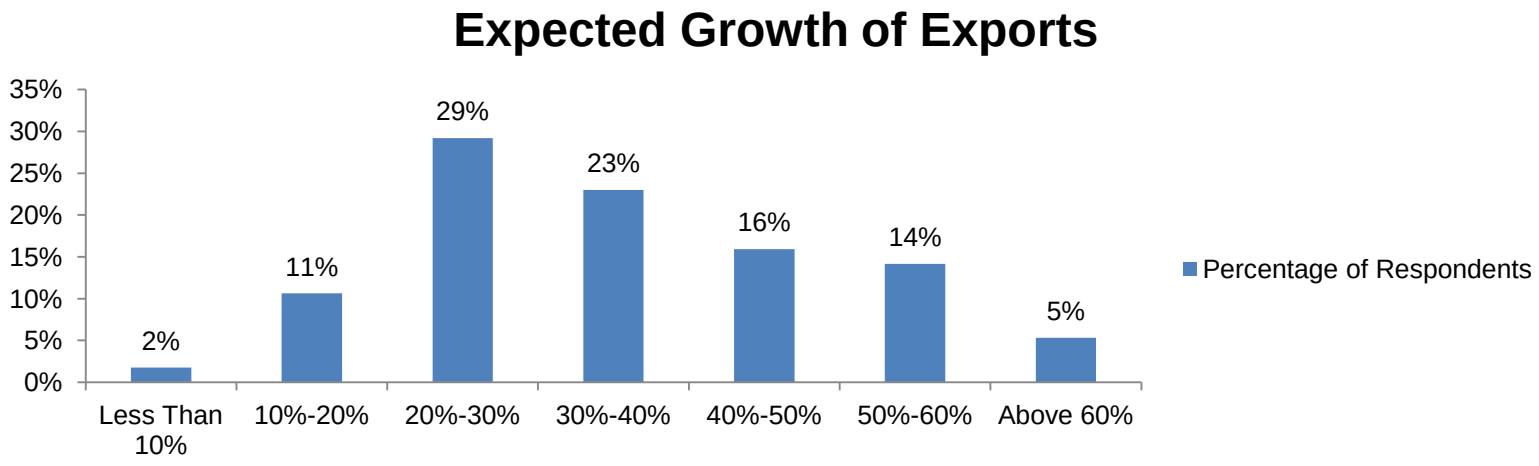


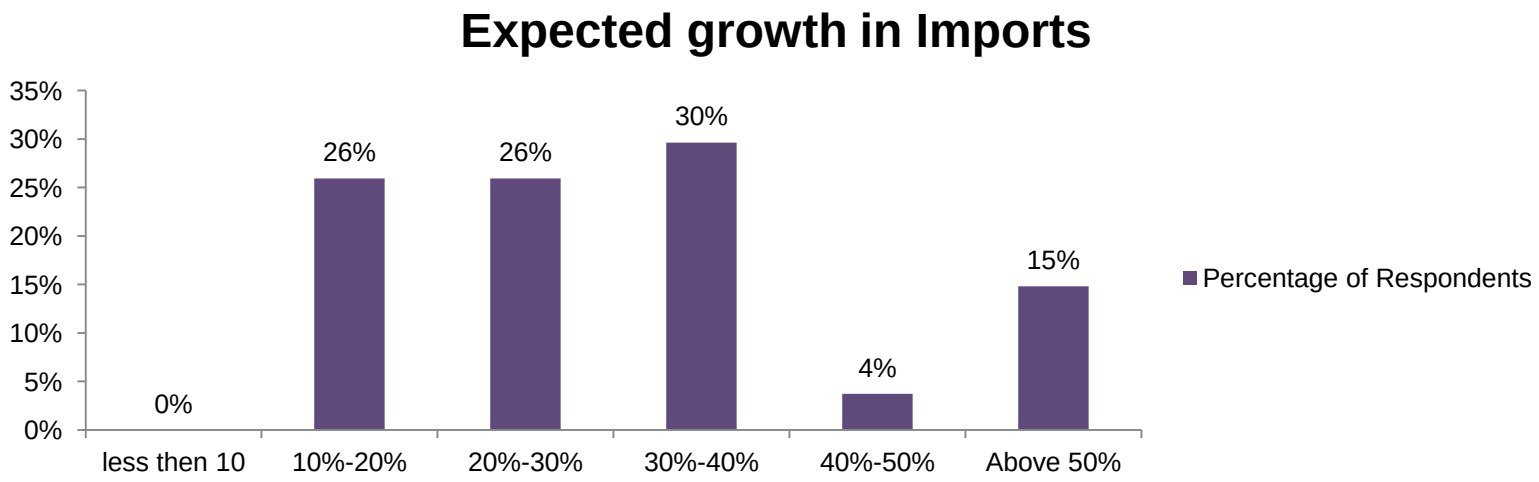
Congestion at Border - Perception of Expected Change Next Year – Imports



Other Indicators

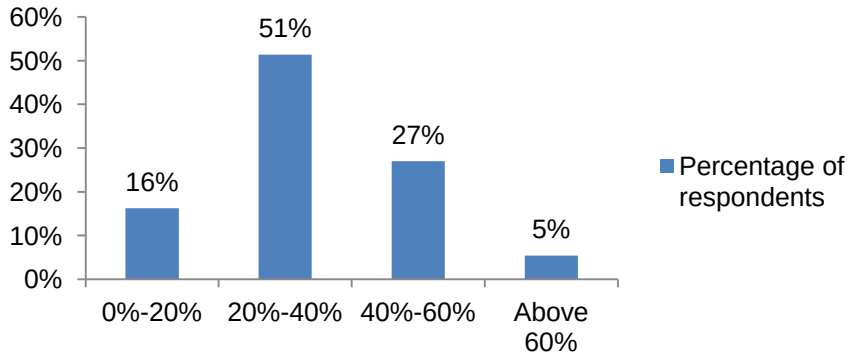
Expected Increase in Trade - India



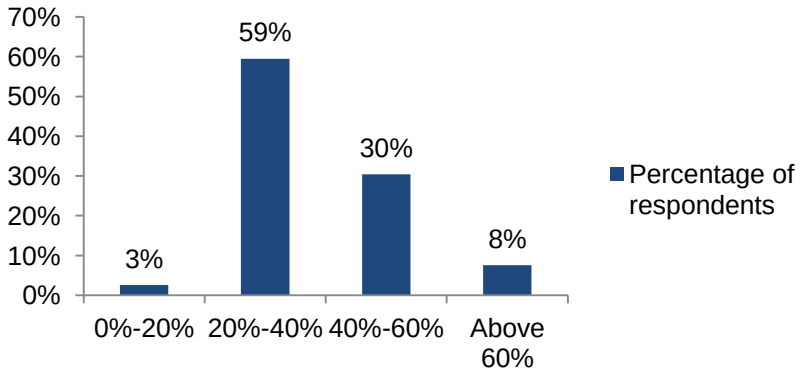


Need for Increase in Infrastructure Capacity – India

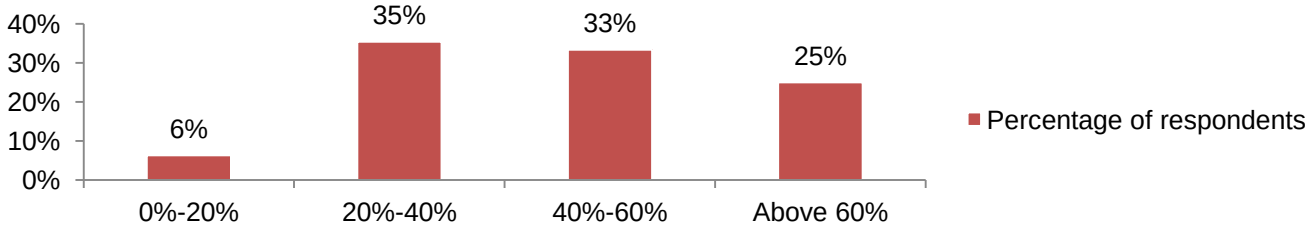
Percentage by which Rail capacity needs to be increased



Percentage by which Road capacity needs to be increased



Percentage by which Sea Port capacity should be increased



Thank You