Understanding the BCI Structure (From Slides + Report)

BCI = Composite Index (1–100 scale)

It contains:

8 Thematic Sub-Indices (Total 49 Indicators)

Sub-Index	No. of Indicators	Data Source
Local Economic Performance	4	Statistics
Local Economic Governance	6	Mixed
Infrastructure	4	Mixed
Business Sentiments	8	Survey
Business Dynamics	9	Survey
Business Services	5	Survey
Sustainability & Climate Resilience	6	Mixed
Climate Smart Governance	7	Mixed

Each indicator is normalized → aggregated → averaged → sub-index → overall BCI.

Recommended Excel Import Architecture

The admin should NOT upload 49 separate files.

Instead, system should support:

Option A (Recommended): Single Master Data Upload Per Municipality Per Year

Each row = 1 municipality (per year)

OR

Option B: Enterprise-level raw survey upload (advanced system)

For now, I recommend **aggregated indicator-level upload**, because:

- Your BCS reports already show processed indicators
- It simplifies admin workflow
- It matches BCI calculation logic

Sample Excel Template (Admin Upload Format)

Sheet Name: `BCI_Indicators_2026`

Each row = 1 Municipality

SECTION A: Basic Information

Column Name	Type	Example
Province	Text	Karnali
Municipality_Name	Text	Birendranagar
Municipality_Type	Dropdown	Municipality / Rural / Sub-Metro
Survey_Year	Number	2026
Enterprise_Population	Number	5731
Sample_Size	Number	166

SECTION B: Local Economic Performance (4)

Column Name

LEP_Enterprises_per_1000_capita

LEP_Outstanding_Credit_per_Firm

LEP_Growth_of_Credit_percent

LEP_Taxpayers_per_1000

SECTION C: Local Economic Governance (6)

Column Name
LEG_Municipal_Budget_per_Capita
LEG_Development_Expenditure_per_Capita
LEG_Local_Revenue_Share_percent
LEG_Percent_Registered_Companies
LEG_Days_to_Registration
LEG_Gov_Service_Quality_Score

SECTION D: Infrastructure (4)

Column Name
INF_Infrastructure_Assessment
INF_Finance_Institutions_per_100
INF_CTEVT_per_100
INF_Physical_Markets_per_100

SECTION E: Business Sentiments (8)

Column Name
BS_Change_Last_2yrs

BS_Business_Condition_vs_2yrs

BS_Expected_Condition_2yrs

BS_Severity_4_Obstacles

BS_Climate_Severity

BS_Regulation_Consistency

BS_Regulatory_Problems_Count

BS_Informal_Payments_percent

SECTION F: Business Dynamics (9)

Column Name

BD_Young_Firms_percent

BD_Turnover_25m_percent

BD_Need_for_Finance_percent

BD_Loan_Application_percent

BD_Innovative_Firms_percent

BD_Invested_Last_Year_percent

BD_Planning_Invest_percent

BD_Digitalized_percent

BD_Investment_Attractiveness

SECTION G: Business Services (5)

Column Name

BSer_Membership_percent

BSer_NonFinancial_BDS_Quality

BSer_Financial_BDS_Quality

BSer_QI_Services_Quality

BSer_Climate_Services_Quality

SECTION H: Sustainability & Climate Resilience (6)

Column Name
SUS_Landfill_per_1000
SUS_Waste_System_Quality
SUS_Sustainability_Investment
SUS_Climate_Resilience_Action
SUS_Response_Regulatory
SUS_Response_Market

SECTION I: Climate Smart Governance (7)

Column Name
CSG_Climate_Risk_Index
CSG_Climate_Investment_per_1000
CSG_Infrastructure_Adaptation
CSG_Climate_Budget_Coding_Statu s
CSG_LAPA_Status
CSG_Disaster_Response_Budget
CSG_Water_Stewardship

How System Should Process This

Step 1: Data Validation

- Check missing fields
- Check numeric ranges
- Ensure % between 0–100

Step 2: Standardization

Convert raw values → 1–100 score using:

Standard Score = (Value - Min) / (Max - Min) * 100

(Or reverse if indicator negative)

Step 3: Sub-index Calculation

Example:

Local Economic Performance Score =
Average(4 LEP indicators)

Step 4: BCI Calculation

BCI = Average(8 Sub-indices)

(You may optionally apply weighting)

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5 Graphical Output Requirements

Based on your slides & Birendranagar sample, system should generate:

1️⃣ Overall BCI Ranking Chart

- Bar chart
- Municipality comparison
- Filter by province

2️⃣ Sub-Index Radar Chart

Like in Birendranagar report

Shows:

- 8 sub-indices
- Municipality vs Median

3️⃣ Indicator-Level Bar Charts (Auto-Generated per Sub-Index)

Example:

Local Economic Performance

- 4 bars
- Municipality vs Median

4️⃣ Provincial Comparison Dashboard

Filters:

- Province
- Year
- Municipality Type

5️⃣ Time-Series Comparison (If multi-year data exists)

Line chart:

- BCI 2024 vs 2025 vs 2026

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6 Final Recommended Excel Sample Structure (Compact Version)

Here is simplified final template header row (copy into Excel):

Province | Municipality_Name | Municipality_Type | Survey_Year | Enterprise_Population | Sample_Size |
LEP_Enterprises_per_1000_capita | LEP_Outstanding_Credit_per_Firm | LEP_Growth_of_Credit_percent | LEP_Taxpayers_per_1000 |
LEG_Municipal_Budget_per_Capita | LEG_Development_Expenditure_per_Capita | LEG_Local_Revenue_Share_percent | LEG_Percent_Registered_Companies | LEG_Days_to_Registration | LEG_Gov_Service_Quality_Score |
INF_Infrastructure_Assessment | INF_Finance_Institutions_per_100 | INF_CTEVT_per_100 | INF_Physical_Markets_per_100 |
BS_Change_Last_2yrs | BS_Business_Condition_vs_2yrs | BS_Expected_Condition_2yrs | BS_Severity_4_Obstacles | BS_Climate_Severity | BS_Regulation_Consistency | BS_Regulatory_Problems_Count | BS_Informal_Payments_percent |
BD_Young_Firms_percent | BD_Turnover_25m_percent | BD_Need_for_Finance_percent | BD_Loan_Application_percent | BD_Innovative_Firms_percent | BD_Invested_Last_Year_percent | BD_Planning_Invest_percent | BD_Digitalized_percent | BD_Investment_Attractiveness |
BSer_Membership_percent | BSer_NonFinancial_BDS_Quality | BSer_Financial_BDS_Quality | BSer_QI_Services_Quality | BSer_Climate_Services_Quality |
SUS_Landfill_per_1000 | SUS_Waste_System_Quality | SUS_Sustainability_Investment | SUS_Climate_Resilience_Action | SUS_Response_Regulatory | SUS_Response_Market | CSG_Climate_Risk_Index | CSG_Climate_Investment_per_1000 | CSG_Infrastructure_Adaptation | CSG_Climate_Budget_Coding_Status | CSG_LAPA_Status | CSG_Disaster_Response_Budget | CSG_Water_Stewardship

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7 Important System Recommendation

To make this scalable:

- Use **indicator master table**
- Map indicators to sub-index
- Store raw value + standardized score
- Store sub-index score separately
- Store BCI score separately

This will allow:

- Flexible weighting
- Dynamic recalculation
- Multi-year comparison
