

Part 1 Submission: Role Auto Classification

1. Formula Used

Recommended Approach: Scalable VLOOKUP

Step 1: Create a reference table on a separate sheet named "RoleConfig":

Source (Column A)	Assigned Role (Column B)
buyer	BUYER
buyer_line	BUYER
channel partner	CHANNEL_PARTNER
partner_line	CHANNEL_PARTNER
site visit	SITE_VISIT
visit_line	SITE_VISIT
enquiry	ENQUIRY
enquiry_line	ENQUIRY

Step 2: Use the following formula in your main classification column:

=IFERROR (VLOOKUP(LOWER(TRIM(C2)), RoleConfig!A:B, 2, FALSE), "UNKNOWN")

2. Short Explanation of Classification Logic

The logic follows a "Clean then Match" pipeline:

- **Normalization (TRIM & LOWER):** Removes leading/trailing spaces and converts text to lowercase to ensure consistent matching.
- **Explicit Mapping:** The cleaned value is searched against a predefined lookup table of role rules.
- **Safe Fallback (IFERROR):** If the value is missing or does not match any rule, the system assigns "UNKNOWN" to prevent failure and flag the entry for review.

3. Example Input and Output Table

Input (Source_Number)	Assigned Role	Logic Applied
"Buyer"	BUYER	Direct Match
" buyer_line "	BUYER	Trimmed + Spec Match
"Channel Partner"	CHANNEL_PARTNER	Direct Match
"visit_line"	SITE_VISIT	Spec Match
"Enquiry"	ENQUIRY	Direct Match
(empty)	UNKNOWN	Fallback (Missing)
"Investor"	UNKNOWN	Fallback (Unrecognized)

Explanation of Table Logic:

- Case & Whitespace Insensitivity:** As seen with " buyer_line ", the system automatically strips the extra padding and ignores capitalization. This prevents "messy" manual data entry from breaking the automation.
- Cross-Reference Mapping:** The logic maps multiple source formats to a single unified role. For example, both the technical code visit_line and the human-friendly 'Site Visit' result in the SITE_VISIT role. This makes the system compatible with both legacy specs and modern data exports.
- Predictable Fallbacks:** When the system encounters a value it doesn't recognize (like "Investor") or is completely blank, it doesn't crash. Instead, it "parks" the lead in the `UNKNOWN` category. This ensures the data pipeline keeps moving while flagging specific rows for admin review.

4. Scalability Approach

- **Logic (Fixed):** The lookup formula remains unchanged regardless of how many roles are added.
- **Data (Dynamic):** New roles are added as new rows in the RoleConfig table without modifying formulas.
- **Efficiency:** Lookup-based matching (like VLOOKUP or Dictionary/HashMap in code) provides near constant-time performance.
- **Maintenance:** Non-technical users can update role mappings directly in the spreadsheet without altering system logic.