

**ESTABLISHING & DEVELOPING
ENGINEERING SOFTWARE
FOR REPETITIVE DETAILED COST ESTIMATION
TO CONSTRUCTION PROJECTS**

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PRESENTATION

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- 10. SOFTWARE OVERVIEW.**

1. INTRODUCTION

BASIC CONSTRAINTS OF PROJECT MANAGEMENT



2. THESIS HYPOTHESIS



H₀:

**THE AVAILABLE AND EXISTING
TRADITIONAL PROCESS OF REPETITIVE
DETAILED COST ESTIMATE USED BY
CONTRACTING AND CONSULTING
SECTORS ARE SUFFICIENT.**





H₁:

**ESTABLISHING AND DEVELOPING
ENGINEERING SOFTWARE FOR
REPETITIVE DETAILED COST ESTIMATE
WILL SAVE TIME, SAVE EFFORTS,
FACILITATE AND ACCELERATE
CONTRACTOR'S ESTIMATION PROCESS
WITH HIGH ACCURACY AND INTEGRITY.**



3. PILOT SURVEY

**A PILOT SURVEY WAS CONDUCTED PRIOR
THE DESIGN & DEVELOPMENT OF THIS
SOFTWARE FROM CONSTRUCTION
CONTRACTING COMPANIES OF
1ST, 2ND, 3RD & 4TH CLASS
TOAL NUMBER = 15
CONCERNING 20 ITEMS
TO INVESTIGATE GAPS AND ERRORS
BELOW IS THE MOST IMPORTANT FACTORS**

1. WHAT ARE THE USED METHODS

20% MANUAL METHODS

60% MICROSOFT EXCEL

10% SPECIAL SOFTWARE



2. IS THE GIVEN ESTIMATE TIME SUFFICIENT

90% NOT SUFFICIENT

10% HARDLY SUFFICIENT



3. WHAT ARE THE TYPE OF MISTAKES

50% MATHEMATICAL

40% INDIRECT COST

10% DIRECT COST

4. WHAT IS YOUR RANK IN TENDER RESULTS

**90% AWAY FROM 1st ORDER
BY MORE THAN 10%**

**10% CLOSE TO 1st ORDER
NEAR 10%**

5. NO. OF ESTIMATORS NEEDED

80% NEED (3 – 4) ENGINEERS

20% NEED (1) ENGINEER ONLY

6. READY MADE TEMPLATES

90% THEY DO NOT HAVE

10% THEY DO HAVE

7. IS 1ST RANK REASONABLE?

90% RESPONSE / NO

10% RESPONSE / YES

4. SOFTWARE STRUCTURE

1. SOFTWARE THEORY

A. BOTTOM UP TECHNIQUE FOR ESTIMATION (UNIT RATE METHOD).

B. EARNED VALUE MANAGEMENT SYSTEM.

2. SOFTWARE ICON



3. WHY RDC NAME?

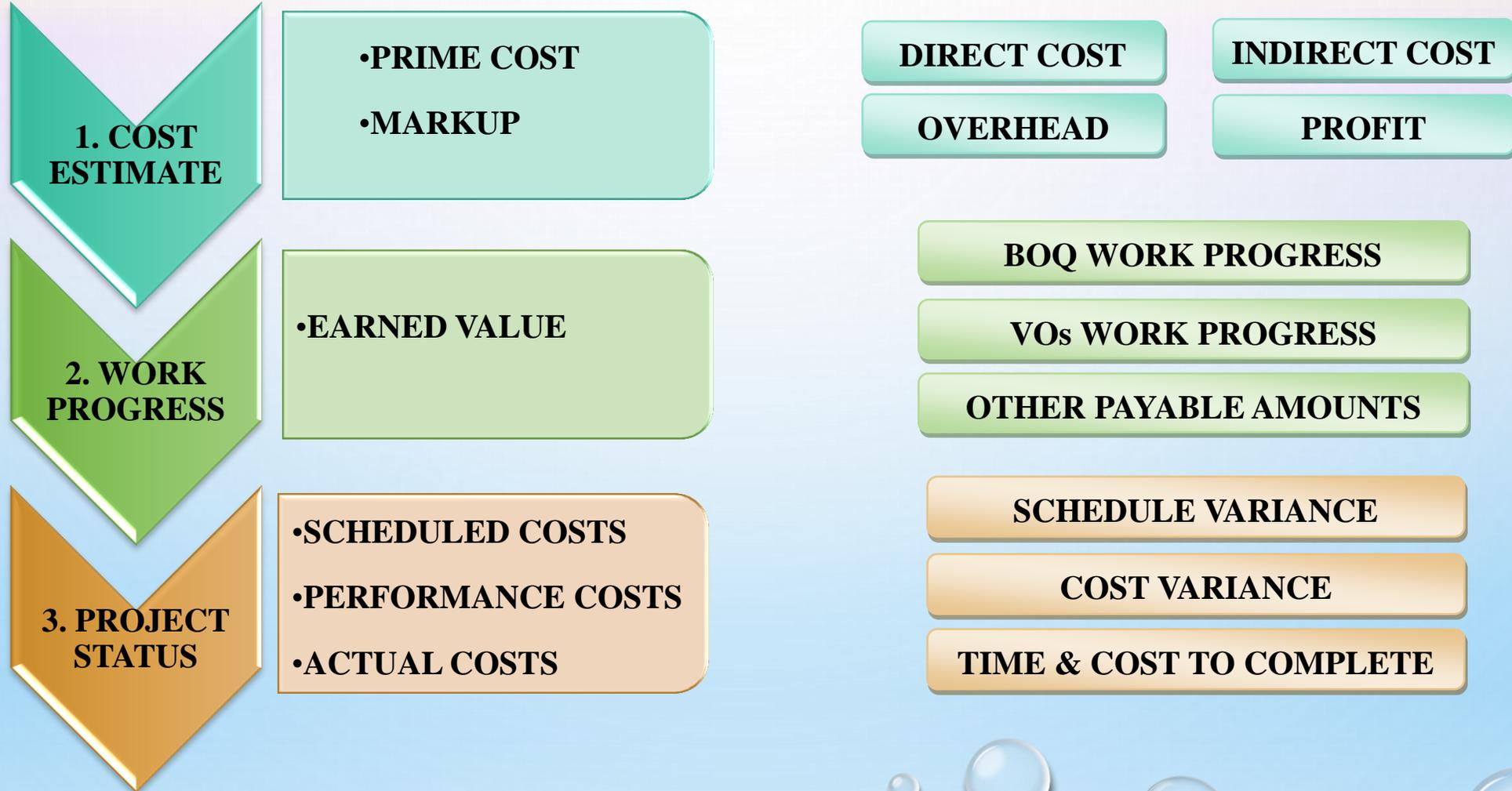
R EPETITIVE

D ETAILED

C OST

ESTIMATOR

4. SOFTWARE FLOW CHART



5. SOFTWARE LANGUAGES

A. SQL:

- * SOFTWARE DATABASE.**
- * SOFTWARE CALCULATIONS.**

B. C#:

- * INTERFACE MANIPULATION.**
- * SOFTWARE CORE SYSTEM.**
- * BUSINESS CLASSES DESIGN.**
- * REPORTS AND CHARTS.**

6. SOFTWARE FEATURES

A. RUNS ON MICROSOFT WINDOWS.

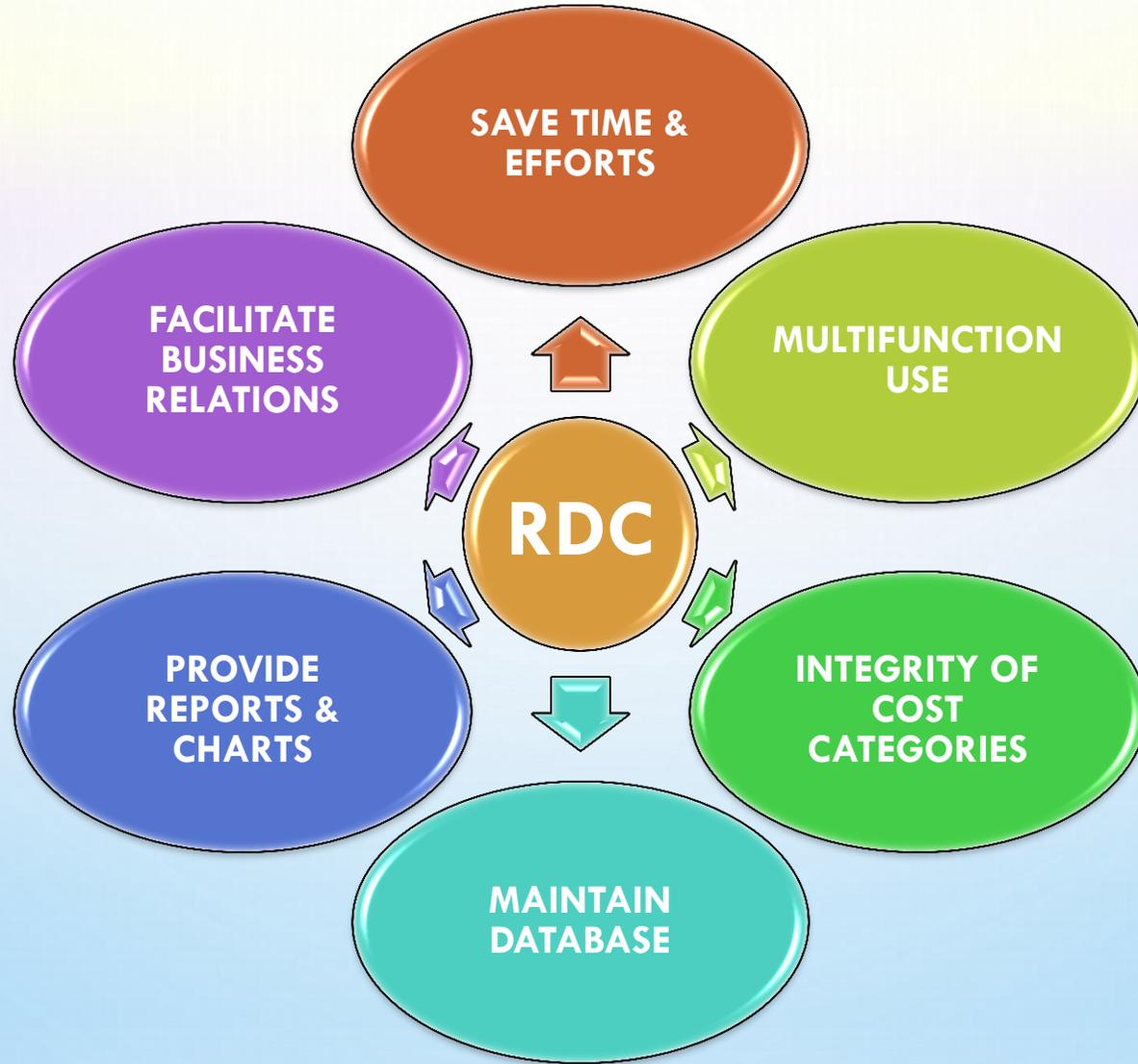
B. USER INTERFACE CONTROLS (UIC).

C. REPORT VIEWER (REPORTS & CHARTS).

7. NETWORK ENABLED SOFTWARE

- * WORKING WINDOWS.**
- * SERVER.**
- * ROUTER.**
- * INTERNET.**
- * INTERNAL NETWORK.**
- * SET OF COMPUTERS.**
- * AUTHORIZATION TO PEOPLE.**

5. THESIS OBJECTIVES



6. STATISTICAL ANALYSIS

1. STATISTICAL METHODOLOGY

A. QUESTIONNAIRE TOOL:

5-POINT LIKERT SCALE TYPE.

B. RELIABILITY TEST:

CRONBACH'S ALPHA.

C. STATISTICAL MEASURES:

**MEAN, MODE, MEDIAN, RANGE, VARIANCE,
STANDARD DEVIATION & TOTAL PERCENTAGE.**

D. Z-TEST: FOR CRITICAL VALUE.

E. RANK SYSTEM OF ITEMS AND DOMAINS.

2. VALUES OF STATISTICAL MEASURES

MEASURES	ITEMS	DOMAINS
α_c	0.61 – 0.96	0.96
\bar{x}	> 4.5	> 4.6
s	0.43 – 0.77	0.22 – 0.31
z_c	V. High > 3.9	V. High > 3.9
%	87% - 100%	94% - 100%

7. THESIS CONCLUSIONS

1. REJECT H_0 .

THERE IS NO EVIDENCE TO PROVE OR SUPPORT IT.

2. ACCEPT H_1 .

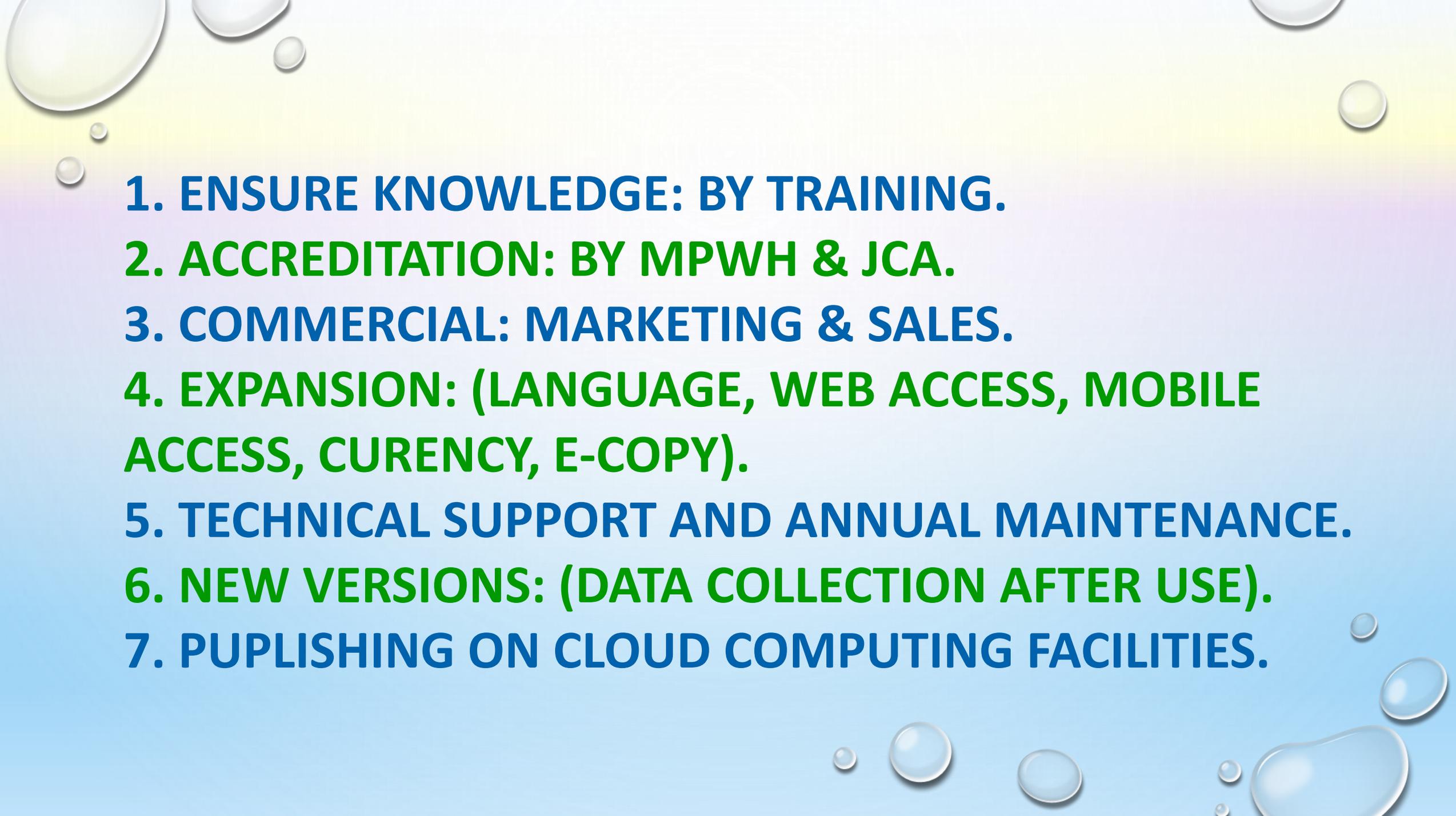
IT IS TRUE UNDER ANY CONFIDENCE LEVEL.

3. THE SOFTWARE ESTABLISHMENT

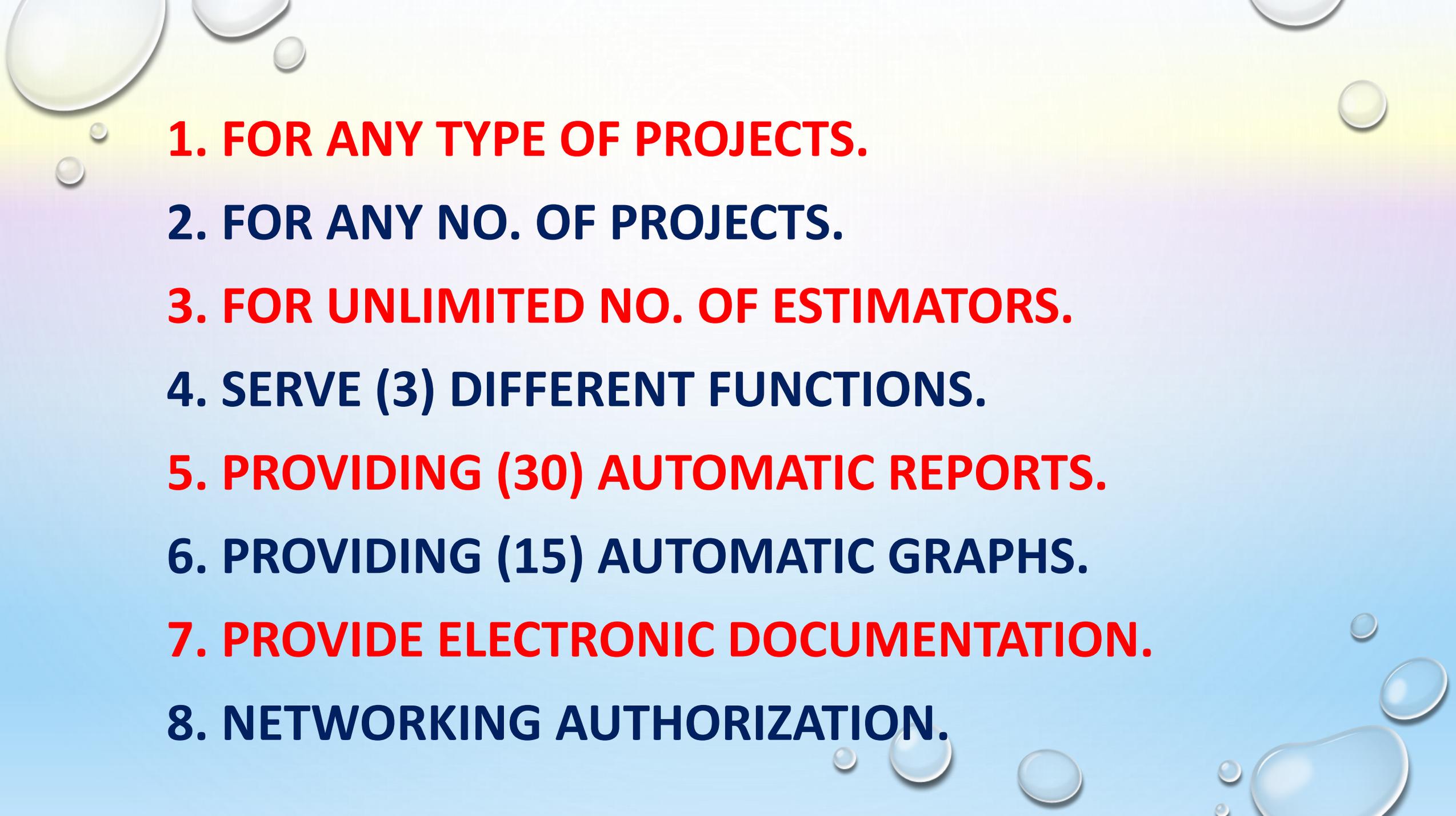
HAS ACHIEVED THE OBJECTIVES

AT A HIGH LEVEL OF ACCEPTANCE.

8. THESIS RECOMMENDATIONS

- 
- 1. ENSURE KNOWLEDGE: BY TRAINING.**
 - 2. ACCREDITATION: BY MPWH & JCA.**
 - 3. COMMERCIAL: MARKETING & SALES.**
 - 4. EXPANSION: (LANGUAGE, WEB ACCESS, MOBILE ACCESS, CURENCY, E-COPY).**
 - 5. TECHNICAL SUPPORT AND ANNUAL MAINTENANCE.**
 - 6. NEW VERSIONS: (DATA COLLECTION AFTER USE).**
 - 7. PUBLISHING ON CLOUD COMPUTING FACILITIES.**

9. SOFTWARE CAPABILITIES

- 
- 1. FOR ANY TYPE OF PROJECTS.**
 - 2. FOR ANY NO. OF PROJECTS.**
 - 3. FOR UNLIMITED NO. OF ESTIMATORS.**
 - 4. SERVE (3) DIFFERENT FUNCTIONS.**
 - 5. PROVIDING (30) AUTOMATIC REPORTS.**
 - 6. PROVIDING (15) AUTOMATIC GRAPHS.**
 - 7. PROVIDE ELECTRONIC DOCUMENTATION.**
 - 8. NETWORKING AUTHORIZATION.**

10. SOFTWARE OVERVIEW



THANK YOU

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