**ELEMENTS OF RESEARCH**

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| **SECTION** | **ELEMENTS** | **GUIDELINES** |
| INTRODUCTION | Background of the Study | \*Answering the question “What led you to take this specific research topic?” |
|  | Trends in your Topic | \*Discuss the current trends in your topic. It primarily answers the question “What are the most important issues for this topic in terms of the goals of the project and the effects in society?” |
|  | Issues arising from the trend | \*Consists of the things that become problematic in your topic with the existence of the issues (things affected by the topic)  \*Contains the rationale why the topic is being researched on  \*Identify the research gap  \*This may present some background information; overall trends and references to studies and literature pertinent to the topic of the project  \*Discuss the issues from global reality, national reality, local reality approach  \*Statement of the Problem |
|  | Objectives of the Paper | \*Discuss the things that you plan to do to resolve the issue/s  \*It must name the specific and concrete – if possible, measurable accomplishments intention of the project. It should answer “What, exactly, the project is going to accomplish, produce, and/or deliver?” It also includes the necessary deliverables and defines a reasonable scope of work.  \*Your objectives must be aligned in the issues/problems stated above. |
|  | Scope and Delimitations | \*Discuss what are the features, functionalities and parameters that are included in the research.  \*This section pertains to the definition of restrictions placed on the study to make it doable.  \*Discuss what are the delimitations or restrictions of the study that is beyond the researchers’ concern. |
|  | Significance of the Study | \*Discuss things that will happen once the issues are addressed.  \*Involves the persons to whom the results of the paper will be relevant. |

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| THEORETICAL BACKGROUND | Theoretical Framework | \*Provides a strong underpinning or substantive  \*Explanation or foundation of the main or central question of the study  \*Statement of the theory  \*Explanation of the theory  \*Contextualization of the use of the theory in the study.  \*How can the theory help achieve the objectives of the study? |
|  | Review of Related Literatures and Studies | Contains the synoptic and argumentative part of the study.  \*Synoptic part – contains the operational definition of the variables used in the study and its relationship with other variables (similarities and differences and effects) and/or historical background as revealed by previous literature.  \*Argumentative part – contains the sentence of problematizing or the need for the study that leads to the hypotheses of the study. |
|  | Conceptual Framework | Indicates (in graphical and narrative form) the main things to be studied (input, process, output) |
| METHODOLOGY | Systems Development Methodology and Research Design | \*Discuss what research design will the researchers use to complete the research. Express your reasons for its appropriateness to your study.  \*Discuss in general on what type of design will be used.  \*Discuss why the design is the most appropriate to use.  \*Discuss the Systems Development Life Cycle (SDLC) briefly.  \*Discuss briefly the development model (JAD, RAD, spiral, etc.) to be used in the development of the system.  \*Discuss in details what are the action/s that are involve in the model? |
|  | Research Instrument | \*Discuss the tools (survey questionnaire, interview, etc.) used for data gathering  \*Discuss the evaluation tool instrument to be used (e.g. ISO/IEC 25010, etc.) |
|  | Organizational Assessment of subjects | \*Identify the respondents of the study and how they are chosen. Indicate the inclusion and exclusion criteria in the selection of respondents.  \*Describe the locale where the research will be piloted. Described its geographical profile. |

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|  | Required Specification and Analysis | \*Discuss and explains what the program/system will do from the user’s perspective.  \*Discuss all business processes which includes the developer(s) and clients’ requirements  \*Show the analysis tools to illustrate the existing and the proposed system as well as the requirements of the project.  \*Visual Table of Contents  \*Data Flow Diagrams (Context and Level 0)  \*Entity-Relationship Diagram  \*Systems Flowchart  \*Program Flowchart  \*Discuss the systems design specification at the point of view of the developers.  \*Identify the list of algorithms that will be used, major data structures, list of major functions, their inter-relationships, and the steps that will be used to develop the program (forms, reports, user interface)  \*Discuss and give the Software Requirements Specification document which describes the complete external behavior of the software in the development and implementation of the system.  \*Software Specification  \*Hardware Specification |
|  | Implementation Plan | \*Discuss on how will the proposed system will be implemented.  \*Identify and discuss on how the old system will be terminated and convert it into the new system, training of the users and turnover of the system for a full operational system.  \*Discuss the testing and evaluation of the system with a comparison of the old and new system after implementation.  \*Create an economic analysis report that will show a savings to the sponsor after the recommended capital/implementation expenses have been accounted for. |
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