



Enterprise Resource Planning Execution/ Implementation Methodology Classification

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ABSTRACT

The ultimate ERP systems are venture/enterprise broad or extensive systems which, just because of their incorporation or assimilation, automate or mechanize all of a corporation or organization business developments. They have hastily turned out to be the de facto industry or engineering standard for substitution of heritage systems. Because there is proof that the irresistible preponderance of Enterprise Resource Planning accomplishments and executions surpass their finances and their time allotments, researchers have started to scrutinize Enterprise Resource Planning implementation/execution in Case Studies in order to endow with an implementation/execution framework/structure which capitalize on effectiveness. In this research we squabble that the notion of an Enterprise Resource Planning implementation or execution is not a generic or common concept/idea, and we present/current classification of Enterprise Resource Planning implementation groups. The proof for the classification/taxonomy is strained/drawn from earlier studies and from a sequence of prearranged discussions with practitioners who are specialist in Enterprise Resource Planning implementation/execution. We additional squabble/argue that accepting the diversities between these categories/groups is critical if researchers are to do case study research of Enterprise Resource Planning implementation; or else, contrasts are being crafted between Enterprise Resource Planning implementation/execution projects which are fundamentally disproportionate. Conclusions based on incommensurate cases are innately invalid. The classification of implementation categories/groups is also accessible as a tool for implementation managers to demarcate the range of an Enterprise Resource Planning implementation project prior to in vigor requirement of the development/plan processes or progressions.

1. INTRODUCTION

Enterprise Resource Planning techniques are complete packed software solutions which aspire for absolute incorporation of all business processes and functions. Business Source Planning (ERP) is the general name [9, 1, 4, 11], of this new category of packaged program software. The significant benefits of these techniques are that they endow with typical incorporated software groundwork for organization procedures. These systems have two essential features: first of all, they guide in a causal connection between a visible style of organization processes and the program execution of those procedures, and secondly they make sure a level of incorporation, information integrity and protection, which is not quickly possible with multiple software systems. The companies of completely integrated software provide program that is able of handling all commercial functions of any

organization, no issue how large, different or geographically different the company's components may be. Moreover, the program is not limited to particular industry sectors: it can be designed for retail industries, exploration organizations, financial institutions, air carriers etc. ERP market commanders [14] are SAP AG (39 percent around the globe market) Oracle Organization, People soft Inc and Baan Co. Early records of ERP execution [2, 3] distinguished only between a Phased and a Big Bang approach. Latest reports have outlined the many differences between ERP implementations. In 1998 Ross [15] emphasized that there was difference both in motivation for an execution and in style choices created in the planning level of an execution. Netherlands, Lighting and Gibson [10] highlight the many different approaches to ERP execution, at the level both of technical aspects and with regards to the organization opportunity of the project. In this document we dispute that the idea of an ERP implementation is not a general idea and in particular that:

1. The conventional variation between a Phased and a Big Bang execution is too rough to codify the range of real strategies to ERP execution which are extant in industry and
2. ERP implementations drop into three wide groups, which we contact "Comprehensive", "Middle Road" and "Vanilla." These groups are provided as archetypes of ERP execution. A mixture of implementation functions provides to position an implementation within one of these three broad categories. ERP implementations change with regard to several key characteristics: in this document these are described as the Actual physical Scope, the BPR Scope, Technical Scope, Component execution Technique, and the Source Allowance. The groups and you will together provide taxonomy for the category of ERP implementation projects. We acknowledge that in theory there are numerous blends of these functions and so there are several kinds of ERP implementation approaches. However there is a good purpose to try to delineate archetypal strategies to ERP execution. Understanding the variations between these groups is crucial if scientists and venture supervisors are to understand the procedure of developing a maximally efficient implementation; otherwise, evaluations are being made between ERP execution tasks which are essentially non-commensurate. Such evaluations are inherently incorrect. Further, although ERP techniques are now the conventional for alternative of history techniques [6], over 90% of ERP implementations surpass both their funds and the designated period [12], so a device that helps in the determination of genuine venture opportunity is essential. The proof for the delineation of groups has been gained from latest reports of ERP execution and from the encounter of ERP mature



implementation managers, who between them have handled 42 ERP implementation tasks within Modern Australia and the United States. In arranged interview, the implementation projects in which they had taken part were rigorously documented. An research of the certification can handle the proposition that there are three wide groups of ERP implementation. Each of the three wide groups is delineated by key functions such as the level of envisaged BPR, the variety and form of module choice, and choices concerning the way of connecting the ERP with history techniques. Each of these may be inter-connected. For example the reasoning for the execution may imply information about the level of BPR, and/or the variety and nature of segments selected This research has significances for experts who wish to efficiently apply these techniques in that it categorizes execution strategies in a way that reflects the encounter of latest reports and expert practitioners. As such this taxonomy is imagined as a tool for control, particularly in the preliminary perseverance of the venture opportunity and necessary resource allocation. A CEO who chooses on an ERP execution is determining to devote huge options to the venture. ERP tasks are measured in money. Once the preliminary decision has been created, and the preliminary options are designated, there is little opportunity for retreat: in 42 implementations which were documented in this research, only one discontinued the venture. Most organizations both over-spent their funds and exceeded their time allocation, but once dedicated they sensed impelled to proceed. The taxonomy is imagined as a device for management which should guide them to position their anticipated execution into a realistic viewpoint, and provide them with a way of seeing, beginning on, the dimensions and repercussions of key choices regarding the functions of their execution. The taxonomy should also provide support to researchers who practice example research of ERP implementation. It should be useful first in multi-case research in that it allows recognition of comparable cases. Further it provides groundwork for upcoming research to verify the usefulness of the taxonomy in fluctuating organizational conditions.

2. CALL FOR CATEGORIZATION/ CLASSIFICATION

The interviews, together with the recent literature, emphasized that ERP executions differ drastically with respect to their inspiration, and that these differences in inspiration affect the planned scope, blueprint, and approach to the ERP execution. The inspirations for ERP systems and the need for a tool to help out CEOs with the execution resolution are discussed below.

2.1 Brainwave Deviation of ERP

The justification for implementation/execution differs among companies and provides a sign of the type of execution predicted. This point has been felt in the literature. In a fresh study [15][18], Ross noted that firms provided six causes for executing an ERP. The main reason was the want for a common IT platform. Other cause included a need for process upgrading, data visibility, operating cost lessening, huge responsiveness to customers and developments in strategic decision-making. Although several firms in her study gave the need for Y2K fulfillment as a motivation, she viewed this as simply the impulsion for the substitute of a mix of aging inheritance systems with a frequent used platform. Replacement of legacy systems with a common platform had become crucial for two reasons: a mix of aging legacy systems had led to high cost hold and the firm's probable

business benefits such as process improvements and data visibility to result in cost lessening. Another study [7], by Deloitte Consulting, of individuals from 62 companies found that motivation for an ERP implementation fell into two broad categories: a resolution of technological troubles and a vehicle for solving prepared problems such as uncompetitive business performance and unproductive business processes. Holland et al [10] found that the ERP execution problem includes tactical, organization and technical aspects. These differences in rationale will to some extent determine the type and scope of ERP execution.

3. CATEGORIZATION OR CLASSIFICATION

The classification comprise of execution categories and implementation characteristics. The three archetypal categories are Comprehensive, Middle-road and Vanilla. Each of these is argued below. The characteristics of each category are Physical Scope, the BPR Scope, Technical Scope, Module Implementation Strategy, and Resource Allocation. mixture of these characteristics provide to place an execution within one of the categories. More than one combination of characteristics might result in the same category.

3.1 Enterprise Resource Planning Execution Categories/Classification

The data from the interviews indicates that there are three archetypal execution categories. An overview of their individuality, and the range of amalgamation of these, follows. After the description of the three categories, we then discuss the distinctiveness which, in combination, place an execution within one of the three categories.

3.1.1 All-inclusive or Wide Ranging

This category/group symbolizes the nearly all determined execution/implementation approach/methods. Characteristically it includes/comprise a multi-national company, which decides to execute an ERP in multiple sites, often across national borders. Apart from the physical scope of the project, there is implementation of the full functionality of the ERP, and irregularly this may involve the cutting of industry specific modules. An ERP such as SAP R/3 for example consists of 12 main modules, each with a range of sub-modules. Accepting the full functionality of the ERP may mean executing all or most of the 12 modules, together with execution of an industry specific module. In addition, because there are multiple sites, typically with separately evolved business processes, the scope and level of BPR required is much more. A further trait concerns the method of connecting the ERP module to legacy systems. This may be either the 'module-by-module' or the 'full ERP' method. In the 'Module-by-module' method, the process is to execute a module, then link it the legacy systems, then execute the next module, and link it to the legacy systems, and so on until all modules are executed. The 'full ERP' method involves executing all the required ERP modules and then connecting the whole ERP to the legacy systems. The difficulty described above involves large resource allotment. One such execution, for example, took seven years, and the cost was measured in tens of millions of dollars.

3.1.2 Middle-road

This category is, as the name suggests, mid-way between a Complete and a Vanilla implementation. Characteristically, there are multiple sites (although there may be only one



extensive site), and a major choice is to execute a selection only of core ERP modules. For example, with the SAP R/3 system it might be decided to execute Financials, Controlling and Asset management and Project systems. The level of BPR is important, but not as extensive as that required for a complete execution. Such systems may take 3-5 years to implement, and cost about \$A3M.

3.1.3 Vanilla

This is the slightest single-minded and slightest hazardous execution/implementation approach/methodology. In general, the execution is on one site only, and the number of forthcoming system users is small (less than 100) [16]. A choice is made to have core ERP functionality only, and to do negligible BPR in order to exploit fully the process model built in to the ERP. This decision basically is a decision to line up company processes to the ERP rather than modify the ERP to reflect sole business processes. These systems are the least complex, and normally they may be executed in 6-12 months, and cost \$A1-2M.

3.2 Execution Features of Enterprise Resource Planning

The interrogations in concert with the up to date text exposed that Enterprise Resource Planning executions differ considerably with respect to several characteristics.

3.2.1 Substantial/Corporeal Range or Extent

Enterprise Resource Planning execution might fit into place an individual single site, multiple sites inside the same geographic region, or multiple sites speckled across national borders. Further, the number of users of the

ERP system may differ widely. Some examples will exemplify that there are, because of these physical factors, wide differences in the complication, cost and length of Enterprise Resource Planning execution/accomplishment.

3.2.2 Range Of Business Process Re-engineering (BPR)

Even though it is extensively believed that Business Process Reengineering is a Required feature/component of Enterprise Resource Planning implementation the interviews showed that some companies intentionally opted to minimize it [17]. This selection of the level and type of BPR was known by Bancroft in her study of 30 American executions of SAP R/3: "Not all companies wish to make huge changes to their business developments". The specialist in the interviews emphasized this point. They frequently referred to "Vanilla ERP" by which they meant an execution in which the company considerably conformed to the ERP, rather than execution of the ERP being preceded by significant ERP-independent BPR. It is true that some companies saw the acceptance of an ERP as a chance for comprehensive BPR. In this context, BPR was seen as an introduction to mapping the business process onto the ERP system. However, and fascinatingly, the most skilled experts were firm that execution should be accompanied by as little BPR as feasible. Of course, even if the vanilla ERP advance is taken on, some BPR is to be expected, particularly when legacy systems are involved. There are two possibilities to the change management method which affect the resource distribution for the ERP execution the first of these concerns the character of the change. The change may be basically a modification of the current procedure, or it may involve the desertion of the current procedure and its substitution with a new one. These are the blunt edges of the change aspect. The

second aspect of BPR concerns the range of the envisage changes. The change may influence only a few people, or they may influence departments or regions. The more people and industries which are affected the more convolution is built in to the assignment and the greater the anticipated time and resource distribution.

3.2.3 Extent or range of technicality or practicality

A clue to untimely pledge for an execution/implantation manager is to settle on if and how much the Enterprise Resource Planning software is to be tailored. The experts interviewed, predominantly those with most understanding, insisted that this conclusion was one of the most considerable in ensuring that financial plan and time frames were met. One of these experts, who had been Project Manager of seven large SAP implementations, provides us with his "10 Commandments for SAP implementation". Number 2 was "Thou shalt not change SAP"! There are numerous types and levels of amend that may be contemplated. Each ERP has its own built-in business processes. In the case of SAP R/3 these are shown in the Reference Model. In a SAP R/3 execution, an early job for a project group is to evaluate its own business processes with those revealed in the Reference Model, in order to settle on which processes will be adopted as is, and which are to be customized [3]. Not unexpectedly, there is an association between the quantity of modification and the convolution and length of the plan. Apart from customization, a corporation may entail an industry specific module to be developed. Again, this will demand a consequent addition of time, project convolution and budget distribution.

3.2.4 Strategy for executing/implementing a Module

We have two main decisions to be exercised in significant the module/component execution strategy/approach [10]. The first choice concerns the range of modules. ERP systems are modular systems. For example, SAP R/3 has core modules called Financials, Controlling, Asset Management, Human Resources, Materials Management, Plant Maintenance, Production Planning, Project System, Sales and Distribution, Quality Management, and Industry Solutions. Each of these is in turn collected of sub modules. Financials has for example, sub-modules of General Ledger, Accounts Payable, and Accounts Receivable etc. It is odd for a company to put into operation all modules, so the first outcome is which modules to choose. Of the 42 implementations recognized in this study, only one had opted for full working. Having determined on the modules a second choice Concern the method of linking each module to accessible systems. There are two standard approaches: either put into practice module-by-module, or as each is implemented join it to the existing arrangement, or on the other hand apply all modules and then join them to the accessible system/s. The first choice is less uncertain, but more resource rigorous. The second is uncertain but a less time consuming alternative a corporation which selects the full functionality of the ERP is committing to a fundamentally more composite task than one which selects only a few foundation modules (characteristically Controlling, Financials, Project System & Asset Management).

3.3 Combining Characteristics

It is hypothetically likely to make several combination of the above individuality. However, the intend here is to spot the range of combinations which jointly place a likely execution



into one of the three categories. Within each of the individuality, the collection of probable values is shown. Then an X is located against every value if it is a achievable value for that feature for that class A Middle-road execution will either be on a particular site, or on numerous sites surrounded by the same region. It is probable for a group to have either one of numerous standards within a attribute. For example, a complete execution may entail either Local BPR or Global/International BPR. Nevertheless, the grouping of characteristics is able to verify the suitable class. For example, even though any one of the category may entail a particular location, that fact collectively with selection of complete functionality under Module execution Strategy places an execution into the complete category. The combinations given away are based on the consultation data concerned with the credentials on module collection, site choice and geographical position, the advance to BPR

And module execution policy, and the time and supply allocation.

4. RESEARCH AND PRACTICE INSINUATION

This study/scrutiny has been concerned/associated with the production/crafting of a classification to assist senior or superior administration to elucidate both the range/extent of a projected ERP Project, the key characteristics of each execution, and some implications of choosing those characteristics. For instance, if a business selects numerous sites and sophisticated BPR, then the supply distribution is greater than if a particular site only is chosen. The CEO can see clearly some of the cost of execution decisions by understanding the classification, and the choices it highlights. In this way, the taxonomy can be used to organizing of negotiations about ERP execution and create the conclusion making process more methodical. For instance if the CEO knows that the corporeal range is a single location, he envisages local BPR only, some negligible amendment to the ERP, and intends to execute a limited set of 5 core modules, then the execution is middle road. From that data the framework indicates that the time range will be roughly 12 months and the funds around A\$3M. Understanding of ERP projects is a comparatively new region, so the advance has been to create the most up to date studies in this area with the proficiency of knowledgeable practitioners. The studies and the interviews confirmed that there is no such thing as a general notion of ERP execution; instead there are key characteristics of each execution. Each of these characteristics has a choice of values which symbolize basic decisions which are made in the execution procedure, and each of them has consequences for the execution. Together the characteristics unite to create three major or archetypal categories of ERP execution. These are described as wide-ranging, Middle-road, and Vanilla. The intend of the taxonomy is to provide non-technical managers with an useful framework, early in the procedure, to understand the extent and implications of the project. This may then aid to lessen the finances and time blowouts which have been noted above. The taxonomy should also support researchers; predominantly those who carry out case study investigate in this area to classify similar cases. The central argument has been that there is no such thing as 'an ERP execution; as a substitute there are three chief categories. Researchers who desire to evaluate like cases with like cases may find the taxonomy useful for identification of the analogous cases. As a final point, case study on the taxonomy itself is necessary in order to obtain a deep

understanding of each of the categories and their characteristics within asymmetrical executive frameworks.

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