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Research Article

A Comparative Study of Vendor Selection Process in Global Outsourcing Industry with an Elucidated Scientific Approach

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Abstract

While short listing a vendor, all stakeholders want to ensure that a reliable, dependent, and quality vendor is on-boarded. Any rogue or incompetent vendor selection may hamper the core business of the organization and may result in the downfall of the organization as well as its goodwill, built over years. Stemming from this dilemma, business leaders moved to the business process outsourcing model to mitigate some of the risks in doing everything by them. The outsourcing helps to quickly scale up or scale down and avail expert services at a reasonable price. While mitigating risks, this also allows the parent organization to focus on their core business lines. Increasing reliance on outsourcing of business processes requires a more robust, systematic, and reliable strategy/technique rather than a trial-and-error method based on human-relations and interviews. There exist various methods proposed in past and are also being explored under the garb of Decision Analysis and Resolution or Decision Support Systems. However, research shows considerable use of such systems and methods in the work methodology rather than for Vendor selection. In this paper, we lay focus on an IT outsourcing scenario where a standard decision method can be used while comparing global vendors in this highly dynamic, competent IT Business Scenario.

Keywords: outsourcing, vendor selection, parameterized selection, decision analysis, expert services

Introduction

Quality of a product has been defined by Quality Guru Joseph M. Juran as “Fitness for use” in the famous Juran Trilogy. In this age of stiff competition and challenging customer mindsets, the critical success factors for any organization are to provide Timely services/products Cost-Effective services/products. A quality that meets customers’demands and expectations Provide Value-added services, Innovate to enhance customer experience Ensure compliance to regulatory, statutory and environmental rules and Contribute to a social cause. To meet stakeholder’s expectations as discussed above, business leaders don’t shy away from outsourcing business processes in a controlled manner. The dictionary meaning of Outsourcing says that - a situation in which a company employs another organization to do some of its work, rather than using its own employees to do it. It is basically a contractual agreement between the customer and one or more vendors to provide services or processes that should be binding between both. [1] Over the years outsourcing has increased continuously. A substantial part of most businesses across the US and UK are now outsourced to global corporations in developing countries. The global outsourcing trend from the year 2000 to 2019, in terms of US dollars, is shown in Figure 1.0below:

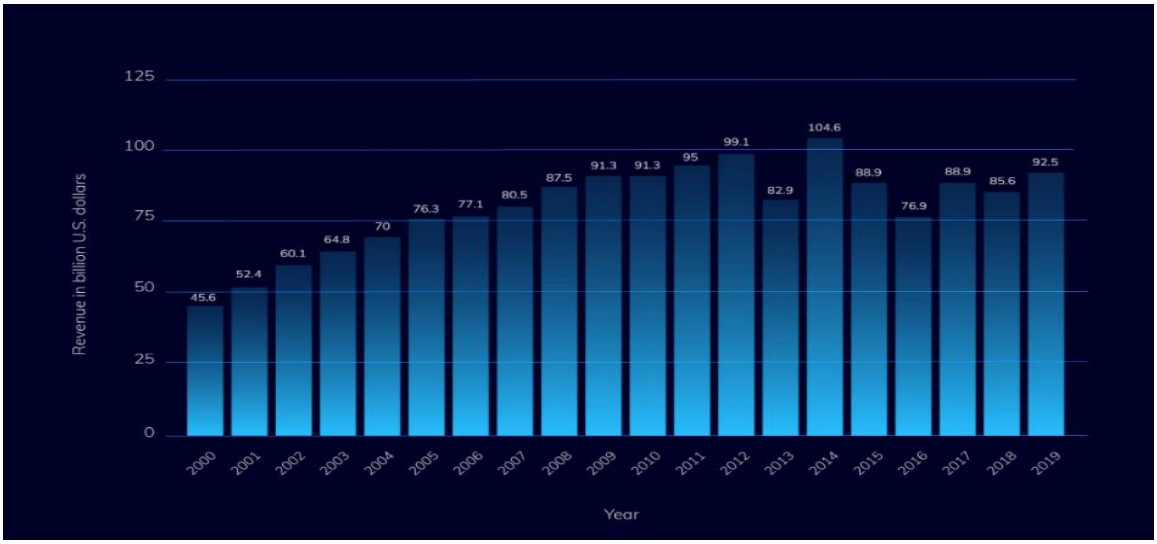

Figure 1.0 Global Market Size of Outsourced Services from 2000 to 2019 *Y-axis–is outsourcing company* revenue Source: https://www.statista.com/statistics/189788/global-outsourcing-market-size

The primary objective of outsourcing to a selected vendor is to reduce, transfer, and mitigate risks and quickly scale up with required controls. This requires meticulous, robust, and process-driven strategies (industry-standard parameters to filter the right vendor). Whilst the primary objective of the vendor is to get the contract for new business, secure a higher profit margin, raise the professional bar, succeed at excellent branding, and gain a prominent place in the global outsourcing market. The numerous journals and sites give descriptions of the vendor selection process, and the pros and cons about the same. Various papers also emphasize some of the important criteria for vendor selection parameters. But the algorithm which has a wide range of parameters, criteria, and dimensions for vendor selection is not available. And whatever is available cannot be implemented for the accurate and pragmatic vendor selection. Many of them are not flexible enough to meet the changing needs of the outsourcing requirements. And they are found to be faulty and misleading. All this can be done in an unbiased manner by providing flexibility to modify and select the dimensions of the parameters and their weight age. Guesstimates, prima facie decisions have led to wrong vendor selection resulting in wastage of money and time. As per PMI research, 11.4% of investments are wasted due to poor vendor project performance, whilst vendor contributions are significant. Changing the contracts halfway or splitting the work between vendors is always a costly affair for the customers. Such attempts have miserably failed in the past. [12] [3] When given to the wrong vendors [12][13], contracts are canceled and losses run into millions. Hence, it is advisable that a vendor-neutral standards-based approach must be adopted to select the right vendor. Those papers in various journals are unable to solve the vendor selection problem and hence we need state-of-the-art method to address the shortcomings in the vendor selection process. In this paper, we lay down the importance of defining different dimensions, defining their weight age, deep dive into the quantification, and list down RFP (Request for Proposal) answers. This will help to compare different vendors against each other to shortlist reliable, sustainable, and competent vendors. The research explores and examines factors for supplier evaluation and their impact on process improvement. The primary goal of this research is to depict the relationship between the dimensions of the vendor selection methods. This research paper proves that different departments of the organization (Delivery, HR, Compliance, Finance, etc.) and vendor relationship management have a positive and significant influence on vendor evaluation, whereas Quality and cost have a weak and insignificant impact on supplier evaluation. [11] This paper will be particularly useful in IT outsourcing scenarios and will help sustain long-term competitive advantages. Other departments can benefit from the Balanced Scorecard given in excel.

Literature Review

As a scope of study and practice of this subject and paper, it forms a part of the Global Operations, Freight, Transport, Logistics and Supply Chain Industry which has a worldwide turnover of around of 30 trillion US Dollars annually. This process is embedded in each and every industry locally and globally. Let us have a look at some notable reviews in this field with focused and adoptable approach. "Operations excellence cannot be achieved without integrated and cost effective approach". Lombardi, V. (2004). "Job Sequencing is needed to fetch results in cost cutting which any day forms the essence of supply chain". Luxembourg, G. (2006). "Supply Chain is still in its evolutionary phase between a firm's primary and secondary processes". Baton, A. (2009).

The Research Methodology

For the purpose of this paper, it was necessary to focus our research on the following key areas:

A. Outsourcing Reasons
B. Outsourcing Challenges
C. The Algorithm
D. Comparison of Existing Vendor Selection Methods
E. A Scientific Approach for Vendor Selection Using Parameterized Technique.

In addition to the above, further research is conducted for the sake of completion of this discussion on the impact of outsourcing on outsourcer goodwill.[3] It is found that compared to 'in-house' activities.[3]a high level of risk associated with alliances existed. We have also researched "Intellectual Property (IP) Protection Issues in Outsourcing."[4] It has been reported that due to the protection of IP and maintaining the data confidentiality, outsourcing can have challenges. The sharing of data with outsourced strategic alliance partner may be dependent on several other parameters like country regulations, trust-worthiness of the partner as well as location of taking services etc.

"When outsourcing, customer organization should scrutinize the potential partner's ability to safeguard confidential information of commercial value against misappropriation, misuse, sabotage, loss, or theft." [4]

A. Outsourcing Reasons

An organization's business strategy forces them to either implement certain processes in-house or to outsource them. Outsourcing can be done for one or more reasons like onetime project requirement in an organization, unwillingness to increase the headcount for a short duration (resource augmentation), no capabilities, reduction in operating costs, improvement in the quality of new services and products, release of in-house talent towards state-of-art business, mitigation and transfer of risks by outsourcing the services, meeting deadlines, enhancing customer capabilities, creation of required infrastructure and skillsets within stipulated timeframe. Thus, the customer can transfer, mitigate, and avoid risks due to outsourcing to a significant extent.

B. Outsourcing Challenges

Various independent surveys conducted by PA Consulting Group and other independent market watch-dogs have shown that many times outsourcing is a regrettable decision. Besides, strategic outsourcing studies [1] have shown that outsourcing woes occur due to mediocre outcomes as compared to the expected/desired outcomes – this is the result of the first (Pugh Matrix) and second method (Pros and Cons Method), frequent defects or failures due to faulty product components of service failures – this is also the result of the first (Pugh Matrix) and second method (Pros and Cons Method), vendor quality did not meet customers' expectations. The vendor did not have the actual skill and competency to carry out the desired work, which only became evident after the contract, was awarded and outcomes were observed. lack of ownership by the vendor towards the product/service, gaining cooperation from key stakeholders who may have different objectives Vendor may want/require further access than can be provided by the outsourcer which could be a challenge in a high-security business involving financial or personal data or Intellectual Property considerations focus on cost-saving without assessing technical competency Human bias in awarding contracts to a certain preferred vendor over a more competent vendor [5]. While there may be more specific reasons to a special domain or line of business, the top reasons listed above led to the loss of reputation of the outsourcer. However, the topics of the impact of outsourcing on outsourcer goodwill and Intellectual Property challenges are beyond the scope of this paper and need further and more dedicated research. The focus of this paper is on the problem statement, which is to have a simple, sustainable, scientific, unbiased [5] robust method of vendor selection. As, there is a need to devise a homegrown algorithm for vendor selection, the following parameters should be considered for vendor selection: The problem statement may require one or more of the following dimensions of vendors to be assessed which are general knowledge, delivery and technology, financials, human resources, customers (past or existing) of vendors, legal and compliance, suppliers and partners.

C. The Algorithm

Problem Statement and Intended Outcome

In a Global IT Business scenario where outsourcing has already been decided upon by the top management, ***the Vendor Identification and Selection*** process must be carried out in a structured manner. With global players in the tow, we need to identify the best Vendor to outsource the business process to. The problem statement *(mentioned above)* therefore needs an answer to some questions like: Which methods can help carry out a successful vendor evaluation? What are relevant questions should be asked to carry out a successful vendor evaluation? Which factors and weight age should help evaluate the vendors? The purpose of this paper is to showcase the most suitable method to be adopted for vendor selection utilizing a case study and comparing the results arrived at, from a few of the best-known methods.

Considerations and Assumptions

Considerations

For the purpose of this research paper, we have obtained the secondary data which is cleansed, normalized, and masked. The parameters for the sample taken are:
A large manufacturing company with headquarters in the USA has manufacturing plants, sales, and distribution all over the globe. It manufactures Hospital equipment, engineering parts, machinery, and construction equipment. The employee strength is over 100,000 located globally with revenue of over US$1.8 billion.

The organization wished to outsource a few areas of the Technology team. This included maintenance of networking, hardware (servers, storage) in the data center, desktops and laptop support, support for applications etc.

Bidding was carried out and a total of 17 vendors responded with the bid, With certain criteria like profitable since past 3 years, revenue turnover of $100 million, presence across 5 continents, bench strength of 10% and workforce

of more than 20,000, only 5 large vendors qualified. The responses from 5 (five) large outsource business vendors have been further evaluated to identify the top vendor for outsourcing.

Vendor selection exercise must be carried out so that the best vendor for the job can be engaged to achieve the objectives of outsourcing.

Assumptions

Out of the plethora of vendors who have submitted RFP, those who do not demonstrate required maturity during pre-RFP discussions, presentations and calls will be eliminated. Only sensible and relevant vendors are expected to be shortlisted and being asked questions as per Vendor selection criteria. Any vendors demonstrating political connections cannot be evaluated using this algorithm. They might be evaluated outside this algorithm.
Any blacklisted vendors by national/federal agency will be eliminated. They cannot participate in this exercise. Due to the sensitive nature of work, any vendors from prohibited countries will be eliminated before this exercise. They are not part of the vendor selection criteria. As per the company's requirement, only those vendors who fall in Fortune 100, Fortune 500, or related indexed list will be allowed to participate in this exercise. For e.g., there can be multiple criteria's like the company has to be profitable for the past 3 years or the company's market cap greater than $50 (or 100) million can only participate in the bidding process. All such evaluation is out of scope for this algorithm.Vendor pricing and profitability, ROI, etc. are out of the scope of this model. Those will be subjective evaluation and will be done post this exercise. In case the company requires vendors to work on revenue/risk-sharing model, this model does not cover the same. This will be out of scope for this model. SIAM Model is out of scope for this algorithm. This model does not cover any commission or fee-based selection of vendor through improper means or through the barter system. This model does not cover cost optimization that vendors may bring in due to offshore, onshore, or near-shore delivery, or due to maturity built over the year. This model does not cover cost improvement year-over-year. This model does not cover inflation cost that will get added YoY. This model does not cover willingness to take over existing staff in case transition is happening and pricing will be impacted due to the same. If the company is looking for only agile kind of delivery or vendors, this model is not applicable.

Design of Questionnaire and Identification of Selection Criteria

Before one rejects the outcomes of a study citing a lack of data or value inferred, we must focus to collect the correct data to conduct an effective and fruitful exercise. The design of a bid or a questionnaire acts as data collection platform to facilitate further analysis. Many times, it is observed that while the design of a bid or a questionnaire, key points or factors are inadvertently missed out while sharing with all vendors. This is a denial of an equal opportunity. [7] The authors have researched and proposed the following criteria for the capability evaluation of a vendor. To be considered as a shortlisted vendor, the individual rating of all parameters has to be a minimum of 2. Accordingly, a questionnaire was provided to the vendors for the purpose of data collection for conducting the vendor selection exercise. The different evaluation categories were found fit to figure out vendor's competencies and capability to deliver as required. Those are listed below:

General
This is an assessment of general parameters of vendors like process maturity, agile delivery, and demonstration of software services.

Delivery and technology
This is to assess knowledge management, the performance of the vendor against industry benchmarks, documentation and its quality, investment in hardware and software, Business continuity plan, Center of Excellence, Testing Labs, Innovation labs, libraries, Productivity council, Usage of Automation tools, etc.

Financials
This is to figure out how sound the company financials are- its ratings by investors, and Credit Ratings Company.

Human resources
This is to understand employee strength, bench, grade competency, technology exposure of employees, etc.

Customers *(past or existing)* **of Vendors**
This is to have an idea about existing customers, their loyalty, customer NPS, testimonials, big and long-running contracts, legal disputes if any, etc.

Legal and Compliance
This is to understand information security compliance level, policies, certifications, controls, etc.

Suppliers and Partners
This is to understand partnership with service providers, background checks being done, CSR responsibility being executed, etc.

D. Comparison of Existing Methods and Techniques of Vendor Selection

Pugh Matrix Method [6]

Stuart Pugh in 1991 introduced an evaluation matrix to bring in a structured representation of options and their evaluated results and thereby to enhance understanding of a situation for better decision making.[6]The Pugh Matrix is not intended to be a mathematical matrix; it is simply a format for expressing ideas and the criteria for the evaluation of these ideas in a visible, user-friendly fashion.[6] In this method, the evaluation criteria are placed on the vertical axis. The horizontal axis is used for mapping the vendors (Figure 2.1). + (plus): meaning better than, - (minus): meaning worse than, and S meaning same as a defined reference concept. Each criterion is scored for all the cases at the same time. Once the matrix has been fully populated, a summary at the bottom shows the individual concept's ability to match the requirements, strengths and weaknesses in the concepts.

EVALUATION CRITERIA	REFERENCE	VENDOR - 01	VENDOR - 02	VENDOR - 03	VENDOR - 04	VENDOR - 05
Process Maturity	*DEFINED AS PER NEED BY THE OUTSOURCER*	+	-	+	-	S
Customer Loyalty		S	S	S	S	S
Existing long running contracts		+	S	-	+	S
Global Exposure / Market Presence		S	S	S	S	-
Technology Exposure		+	+	S	-	+
Domain Exposure		+	+	+	S	+
Financial considerations		-	-	+	S	+
Employee strength		S	+	S	-	+
Information Security Considerations		-	+	-	+	+
Performance against industry benchmarks		+	+	-	-	S
SUM OF +'s		5	5	3	2	5
SUM OF -'s		2	2	3	4	1
SUM OF S's		3	3	4	4	4
VENDOR SELECTION ITERATION - 01		✓	✓	×	×	✓
VENDOR SELECTION ITERATION - 02		✓	×	×	×	✓
VENDOR SELECTION ITERATION - 03		×	×	×	×	✓

Figure 2.0: Duly filled Pugh Matrix showing Vendor Assessment

In the above method, all vendors can be evenly compared with reference to a single measuring scale, which is flexible enough for the organization depending on their requirements. Simple and easy to use the method does not require a high level of expertise and allows flexibility in mapping. There can be only a single reference point/value for evaluating a vendor against the particular evaluation criteria. The reference point is subjective, as the element of human bias can be perceived and prone to judgment errors. It doesn't offer a conclusive way to identify the quantity by which a vendor may supersede a competitor against a particular evaluation criterion. The technique doesn't let you assign varying levels of importance to the evaluation criteria. Thus, all the evaluation criteria hold an equal value, which may be a deterrent for the optimal vendor selection.

Pros and Cons Method

There are a variety of decision-making techniques. However, the Benjamin-Franklin method is the most suitable one for close-ended questions. You can answer these questions with 'Yes' or 'No'. The process involves following steps:

Ask a very clear question
Make a note of all the pros and cons
Evaluate the possibility of all individual points (pros and cons)
Determine the weight age
Eliminate superfluous arguments
Analyze and decide

The above-mentioned Pugh Matrix method is a quantitative method of mapping alternative solutions or vendors for the purpose of selection. But we can also consider a qualitative approach called the Pros and Cons Method. Many argue that a qualitative research approach is far superior as when comparing the alternates against the defined evaluation criteria, it provides descriptive details. However our research has shown that compared to quantitative research, qualitative research is problematic. [8]

With reference to the already cited and immensely researched area of the qualitative method of vendor selection, this method can be dropped as it could not result in a conclusive and optimal business decision.

Multiple Criteria Decision Making (MCDM) / Parameterized Selection Method

In keeping with other models and strategies for Vendor selection, the most preferred scientific method is Multiple Criteria Decision Making or Parameterized Selection Model.[9]As described by Vince (1992), multiple criteria decision making, is the most directly characterized model by a set of multiple criteria methods.

E. A Scientific Approach for Vendor Selection Using Parameterized Technique [9]:

i. *Identification of Evaluation Category*:
At the outset of floating the bid, the relevant data should be asked by the outsourcer as a part of RFP to base his/her decision of vendor selection. As discussed in section 4 above, we have identified the 10-point evaluation criteria necessary to carry out an appropriate vendor selection exercise. As mentioned in below figure 3, the table shows that based on the Balanced Score Card method, how weight ages can be assigned to Evaluation Category

Category Index	Evaluation Category	Weight age in%
1	General	8%
2	Delivery and Technology	30%
3	Financials	10%
4	Human Resources	10%
5	Customer	24%
6	Legal and Compliance	10%
7	Suppliers and Partners	8%
	Total	**100%**

Figure 3: Assigning weights to the Vendor Evaluation Category (See detailed excel attached in Section 5.3.ii)

ii. *Assigning weights to the Evaluation Sub-Category:*

The next critical step is to study and assign important factors or weights to each of the Vendor Evaluation Category and sub-categories. Except which factors hold the most value to meet the objectives of outsourcing, there is no scientific definition or formula for assigning weights. But certain factors like business expertise, vendor organization health, and financial consideration generally get a higher weight. However, the sum total of all the weights assigned must total up to 100%. The excel-based vendor evaluation sheet is efficient to support the desired method. This is depicted in figure 4 given below.

Category Index	Evaluation Category	Weightage in%	*.1	*.2	*.3	*.4	*.5	*.6	*.7	*.8	*.9	*.10	Total %
1	General	8%	60%	20 %	20 %								100 %
2	Delivery and Technology	30%	20%	20 %	20 %	20 %	20 %						100 %
3	Financials	10%	60%	40 %									100 %
4	Human Resources	10%	12%	14 %	20 %	20 %	14 %	20 %					100 %
5	Customer	24%	20%	12 %	14 %	20 %	10 %	10 %	4 %	4 %	4 %	2 %	100 %
6	Legal and Compliance	10%	50%	50 %									100 %
7	Suppliers and Partners	8%	40%	40 %	20 %								100 %
	Total	**100%**											

Figure 4: Assigning weights to the Vendor Evaluation Category (See detailed excel attached in Section 5.3.ii)

iii. *Defining the Capability Levels for each Evaluation Category:*

The Likert Scale studies have shown there is hardly any variation between the results achieved by using a 4 point, 5 point, and a 7 point scale by using Spearman and Pearsons Coefficient of Correlation.[10] Thus we have adopted a 5-point scale or 5 levels to assess the capability of a vendor for each of the Vendor Evaluation Categories. Further to assigning the capability levels, the definitions of each level need to be clearly demarcated. The detailed mapping of the Evaluation category to assigning weights to establishing capability levels and definitions at each level are depicted in Figures 5.1, 5.2, 5.3, 5.4 .5.5, and figure 5.6 below. Due to the size limitation of the document, here it is depicted only for a single vendor.

				Vendor OI Response Area						
Category Index	Evaluation Category	Evaluation Area/Description	Question	Answer : Y/N/NA	Quantification if applicable	Remarks/Artefacts /Credentials/Testimonial	Evaluate on the appropriate scale	Out of	% of score earne	Level
1.1	General	Process Maturity (For Non-Agile Projects)	What is CMMI maturity model being followed by the company?	Y/N		Y=5, N=3	6	10	60%	
			Since how many years CMMi maturity model is implemented in the company?			<1=1, <3=2,<5=3, <10=	3	5	60%	
			Are all LOBs are at the same maturity level?	Y/N		Y=5, N=3	10	10	100%	
			Does the Service Provider have any industry audit certification? (e.g. ISO27001, OSPAR, SOC 2). If yes, please provide the list of certifications	Y/N		Y=5, N=3	8	10	80%	
			SUM				27	35	77%	Level 4
1.2	General	Agile process (For Agile Projects)	What is percentage of the Agile projects being executed in the company?			<1%=1, <10%=2,<50%=	1	5	20%	
			Are there sufficient certified project pofessionals in the company like SCM, PO, PSM, Safe Agile Coach, Kanban professionals			<1%=1, <10%=2,<50%=	1	5	20%	
			How many years since Agile projects are being executed?			<1=1, <3=2,<5=3, <10=	1	5	20%	
			SUM				3	15	20%	Level 1
1.3	General	Demo of S/W services and fitness for use	How is the software core layered to minimise impact on future software upgrade from customer specific enhancements?				8	10	80%	
			Does the system support clustering? If so, please describe the clustering support provided.	Y/N		Y=5, N=3	8	10	80%	
			Able to support multiple form-factors by leveraging methods such as responsive design technology (e.g. HTML5, CSS3, SVG)?	Y/N		Y=5, N=3	2	5	40%	
			Will software be installed on Bank's server for demo purpose	Y/N		Y=5, N=3	5	5	100%	
			Will you demonstrate exact business case required by Business & Operations?	Y/N		Y=5, N=3	8	10	80%	
			Can you demonstrate transaction processing?	Y/N		Y=5, N=3	8	10	80%	
			Can you demonstrate reports generation?	Y/N		Y=5, N=3	3	5	60%	
			Can you demonstrate reports generation?	Y/N		Y=5, N=3	3	5	60%	
			What is percentage of business Scenarios being demonstrated by the vendor during demo?				4	5	80%	
			SUM				49	65	75%	Level 4

Figure 5.1: ***Evaluation Category – General***

				Vendor OI Response Area						
Category Index	Evaluation Category	Evaluation Area/Description	Question	Answer : Y/N/NA	Quantification if applicable	Remarks/Artefacts /Credentials/Testimonial	Evaluate on the appropriate scale	Out of	% of score earne	Level
2.1	Delivery & Technology	Performance against Industry benchmarks	How do you rate against Industry benchmarks on scale of 1 to 5				4	5	80%	
			Is your defect density above industry average (8%)? (1-Higher Density, 5-Lower)				5	5	100%	
			Is your defect leakage above industry average (10%)? (1-Higher Density, 5-Lower)				5	5	100%	
			What is your TAT for service request?			<30 min=5,<1H=4,<4H	3	5	60%	
			Is your testing automated?			Y=5, N=3	8	10	80%	
			Is recovery time above industry average (10 mins)?			Y=5, N=3	8	10	80%	
			SUM				33	40	83%	Level 5
2.2	Delivery & Technology	Knowledge management	How are you imparting knowledge to new joinees?			Classroom, hands-on	3	5	60%	
			How much time does it take for new joinees to come up to the curve?			Lower time - Higher F	2	5	40%	
			Is there a mechanism to incorporate learning's from previous project into new projects?			Lessons learned - car	4	5	80%	
			Is there any in-house method to certify domain knowledge expertise?			Y=5, N=3	3	5	60%	
			Does company promote/encourage employees to take professional courses/certifications?			Y=5, N=3	3	5	60%	
			SUM				15	25	60%	Level 3
2.3	Delivery & Technology	Documentation & Quality of Documentation for past projects	What are different document will be delivered?			User manual, operati	3	5	60%	
			Is full system documentation in common storage media format (e.g. CD-ROM, electronic file etc.) available?				3	5	60%	
			How often do you revise your documentation?			With each release	4	5	80%	
			Do you provide documentation for known issues/limitation of the system			Y=5, N=3	5	5	100%	
			Will it be updated as and when any change requests raised?			Y=5, N=3	3	5	60%	
			Will incremental documents be available on any change requests?			Y=5, N=3	4	5	80%	
			Will there be on-line help available?			Y=5, N=3	3	5	60%	
			Is training documents available?			Y=5, N=3	5	5	100%	
			Are there training videos available?			Y=5, N=3	5	5	100%	
			SUM				35	45	78%	Level 4

Figure 5.2.1: ***Evaluation Category – Delivery and Technology***

				Vendor 0I Response Area						
Category Index	Evaluation Category	Evaluation Area/Description	Question	Answer : Y/N/NA	Quantification if applicable	Remarks/Artefacts /Credentials/Testimonial	Evaluate on the appropriate scale	Out of	% of score earne	Level
2.4	Delivery & Technology	Infrastructure, S/W and H/W investment	Number of Customers live on your product			< 5 = 1, < 10=2, <50=3,	3	5	60%	
			Max number of Logged in Users at any point of time on your product			< 50 = 1, < 100=2, <200	2	5	40%	
			Average number of Financial Transaction to your product per Day including Delivery Channels (like Internet banking)			<100K=1,<500K=2, <1M	2	5	40%	
			Average number of Non Financial Transaction to your product per Day including Delivery Channels (like Internet banking)			<100K=1,<500K=2, <1M	3	5	60%	
			Number of sub-products created per customer			< 5 = 1, < 10=2, <50=3,	3	5	60%	
			Average Number of Accounts linked per sub-products			< 5 = 1, < 10=2, <50=3,	2	5	40%	
			Number of transactions executed per day			<100K=1,<500K=2, <1M	2	5	40%	
			Please specify the target CPU Utilization for the server if not using default			100%=1,75-90%=2, 50	3	5	60%	
			Please mention the existing hardware platform in case of re-use				1	5	20%	
			Provide max online transactions handled per second (TPS) in your product at peak time			< 50 = 1, < 100=2, <200	2	5	40%	
			Provide max online transactions handled per second (TPS) in your product during the day			< 50 = 1, < 100=2, <200	2	5	40%	
			Provide max online transactions handled per second (TPS) in your product during the batch			< 50 = 1, < 100=2, <200	2	5	40%	
			Please provide the number of reports to be generated daily (back office and client)			< 50 = 1, < 100=2, <200	2	5	40%	
			Where can the system and/or application be accessed from?			Intranet, Internet	3	5	60%	
			Would the system and/or application be using any cloud-based service provider? If Yes, please elaborate				2	5	40%	
			Where are the data centre(s) of the Service Provider located? If you know the location of the data centre(s), indicate them below				2	5	40%	
			SUM				36	80	45%	Level 3
2.5	Delivery & Technology	BCP, CoE, Testing Labs, Innovation labs, libraries, Productivity council, Automation & tools	Does the system adopt latest technology and industry best practice? Provide the details of past 3 years roadmap				3	5		
			Does the architecture design ensures high resiliency to provide a robust system (e.g. auto-switch over to hot-standby)				4	5		
			Is the system capable of operating on a virtualized platform?				2	5		
			Please explain how the application is designed to encourages reusability with clear definitions on the behaviours and functionalities of each component in the system?				3	5		
			Provide published benchmark tests (e.g. TPC-C etc.) on given hardware configurations			Recent tests, higher p	4	5		
			Provide the most recent benchmark for on-line and batch transaction processing			Recent tests, higher p	3	5		
			Is BCM policy in place?			Y=5, N=3	3	5		
			Is BCP conducted once a year?			Y=5, N=3	3	5		
			Does the system able to accommodate growing amount of workload both by adding more nodes to a system (Scale Horizontally) and by adding resources to a single node in a system (Scale Vertically)?				2	5		
			SUM				27	45	60%	Level 3

				Vendor 0I Response Area						
Category Index	Evaluation Category	Evaluation Area/Description	Question	Answer : Y/N/NA	Quantification if applicable	Remarks/Artefacts /Credentials/Testimonial	Evaluate on the appropriate scale	Out of	% of score earned	Level
5.1	Customer	Customer Loyalty	How many loyal customers since 5 years			<5%=1, <10=2,<15=3,<	4	5		
			SUM				4	5	80%	Level 4
5.2	Customer	End customer Evaluation - Net Promotor Score (Scale 1 - 10)	What is average NPS score			10=5,8-9=4,6-7=3,3-5=	4	5		
			SUM				4	5	80%	Level 4
5.3	Customer	Customer complaints	How many customer complaints are received every month?			< 50 = 5, < 100=4, <200	5	5		
			How many on an average open customer complaints?			<5%=5, <10=4,<15=3,<	5	5		
			What is average turnaround time for closing customer complaints as per published SLA?			10%=1, <30%=2,<50%	3	5		
			SUM				13	15	87%	Level 5
5.4	Customer	CSAT and Testimonials weightage	What is average CSAT score continent-wise?			10=5,8-9=4,6-7=3,3-5=	5	5		
			SUM				5	5	100%	Level 5
5.5	Customer	Reputed Cliental references, site visits and feedback	How many client references are available?			1% of high-value clients, 3 5% of high-value clients, 4 10% of high-value clients, 5	3	5		
			How many site visits can be done?			>3= 5, 1-2=4, 0=3	3	5		
			Is there positive feedback on majority?	Y/N/Mostly			3	5		
			SUM				9	15	60%	Level 3
5.6	Customer	Industry experience: Success in similar & varied business	What is success % in similar business?			10%=1, <30%=2,<50%	3	5		
			What is success % in varied business other than bid opportunity?			10%=1, <30%=2,<50%	3	5		
			SUM				6	10	60%	Level 3
5.7	Customer	Existing Long running Contracts	How many long running customer contracts (> 5 years)?			<5%=1, <10=2,<15=3,<	4	5		
			SUM				4	5	80%	Level 4
5.8	Customer	Global Exposure/Market Presence	In how many countries customers are present?			< 5 = 1, < 10=2, <50=3,	3	5		
			In how many continents customers are present?			< 5 = 1, < 10=2, <50=3,	3	5		
			SUM				6	10	60%	Level 3
5.9	Customer	Market rating in global and local market	Is your company in top 10 ratings globally in your product/branding?	Y/N		Y=5, N=3	3	5		
			SUM				3	5	60%	Level 3
5.10	Customer	Legal disputes	How many legal disputes are active in judiciary system			0 = 5, < 5=4, <10=3, <2	1	4		
			SUM				1	4	25%	Level 2

Figure 5.2.2: ***Evaluation Category – Delivery and Technology***

				Vendor 0I Response Area						
Category Index	Evaluation Category	Evaluation Area/Description	Question	Answer : Y/N/NA	Quantification if applicable	Remarks/Artefacts /Credentials/Testimonial	Evaluate on the appropriate scale	Out of	% of score earned	Level
3.1	Financials	Financial Considerations/Strengths	What is company debt?			Higher debt, lower m	3	5		
			Is company listed?	Y/N		Y=5, N=3	4	5		
			Since how many years company is listed?			Higher years, more p	5	5		
			Is company profitable?			Y=5, N=3	3	5		
			Is there positive growth YoY?			Y=5, N=3	4	5		
			Is growth percentage YoY positive?			Y=5, N=3	3	5		
			SUM				22	30	73%	Level 4
3.2	Financials	Ratings, findings & compliance level of the external audits, assessments	Are external audit reports available? If yes, are they positive			Y=5, N=3	3	5		
			SUM				3	5	60%	Level 3
4.1	Human Resources	Employee Strength (Applicable for Non-boutique company/General Services only)	What is employee strength?			<500=1,<1000=2, <500	3	5		
			SUM				3	5	60%	Level 3
4.2	Human Resources	Bench Strength (Applicable for Non-boutique company/General Services only)	What is % of bench strength?			<5%=1, <10=2,<15=3,<	3	5		
			SUM				3	5	60%	Level 3
4.3	Human Resources	Grade Competency Mix	What is Core Competency, Domain, Technical expertise & relevant experience of resources				3	5		
			SUM				3	5	60%	Level 3
4.4	Human Resources	Capacity plan & execution plan for taking new business, scalability, versatility	Is company management able to quickly scale up to take on new business?			Less notice=higher p	5	5		
			SUM				5	5	100%	Level 5
4.5	Human Resources	Technology Exposure	Is company working on latest technology stack?	Y/N		Y=5, N=0	5	5		
			Is company upgrading technology stack every 3 years?	Y/N		Y=5, N=0	0	5		
			SUM				5	10	50%	Level 3
4.6	Human Resources	Domain Exposure	Are there sufficient domain experts in the company?	Y/N		Y=5, N=0	0	5		
			Are they domain leaders (top 3)?	Y/N		Y=5, N=0	5	5		
			SUM				5	10	50%	Level 3

Figure 5.3: ***Evaluation Category – Financials, Human Resources***

				Vendor 0l Response Area						
Category Index	Evaluation Category	Evaluation Area/Description	Question	Answer : Y/N/NA	Quantification if applicable	Remarks/Artefacts /Credentials/Testimonial	Evaluate on the appropriate scale	Out of	% of score earne	Level
6.1	Legal & Compliance	Information Security Considerations & Compliance	Does the Service Provider have privileged access or remote access to perform system/user administration for the outsourced service? If yes, please state the controls in place to restrict access to only authorized users and locations			1. None 2. Good 3. Average 4. Very Good 5. Excellent	3	5		
		Information Security formalized Polilcies	Does the Service Provider have Access Control and Authorization in place	Y/N		Y=5, N=3	5	5		
			Does the Service Provider have Audit Logging in place	Y/N		Y=5, N=3	5	5		
			Does the Service Provider have Backup and Restoration in place	Y/N		Y=5, N=3	5	5		
			Does the Service Provider have Change Management in place	Y/N		Y=5, N=3	5	5		
			Does the Service Provider have Cryptographic Key Management in place	Y/N		Y=5, N=3	5	5		
			Does the Service Provider have Patch Management in place	Y/N		Y=5, N=3	5	5		
			Does the Service Provider have Backup and Restoration in place	Y/N		Y=5, N=3	5	5		
			Does the Service Provider have Privileged User Access Management and Review of Activities in place	Y/N		Y=5, N=3	5	5		
			Does the Service Provider have Vulnerability Management and Penetration Testing in place	Y/N	If Yes, please prov	Y=5, N=3	5	5		
			Does the Service Provider have Baseline Hardening of Servers / Database / Web / Network Devices in place	Y/N		Y=5, N=3	5	5		
			Does the Service Provider have Incident Management and Response in place	Y/N		Y=5, N=3	5	5		
			Are the passwords configurable as below? Passwords shall be at least 8 characters in length. PINs shall be at least 6 digits in length.	Y/N		Y=5, N=3	5	5		
			Are the passwords configurable as below? Number of unsuccessful sign-on password and PIN attempts (or re-try limit) shall not be more than 3.	Y/N		Y=5, N=3	5	5		
			Are the passwords configurable as below? Passwords shall be changed periodically (at least every 90 days).	Y/N		Y=5, N=3	5	5		
			Are the passwords configurable as below? Password re-use shall be restricted against previously used passwords (history of last 10 passwords).	Y/N		Y=5, N=3	5	5		
			Are the Service Provider's policies and standards reviewed on a regular basis? If yes, please state the frequency of the reviews	Y/N		Y=5, N=3	5	5		
			Can you provide independent audit service report (e.g. SSAE16, ISAE 3402) adherence to information security controls.	Y/N		Y=5, N=3	5	5		
			SUM				88	90	98%	Level 5

Figure 5.4: ***Evaluation Category –Customer***

Figure 5.5.1: ***Evaluation Category –Legal and Compliance***

				Vendor 0I Response Area						
Category Index	Evaluation Category	Evaluation Area/Description	Question	Answer : Y/N/NA	Quantification if applicable	Remarks/Artefacts /Credentials/Testimonial	Evaluate on the appropriate scale	Out of	% of score earne	Level
6.2		Level of Security certifications & controls	Will the system and/or application be storing as masked data or processing following information? - Financial information (For example, credit card number, account number, account balance)	Y/N		Y=3, N=5	5	5		
			Will the system and/or application be storing or processing following information? - Personally identifiable information (For example, name, NRIC, residential address, email address)	Y/N		Y=3, N=5	5	5		
			Will the system and/or application be storing or processing following information? - Not applicable. System and/or application will not be storing any of the above information	Y/N		Y=3, N=5	5	5		
			Would there be any multi-tenancy and/or commingling of the Bank's data with other data stored/processed by the Service Provider	Y/N		Y=3, N=5	5	5		
			Are cryptographic controls employed to protect the confidentiality, authenticity and/or integrity of information transmitted, and stored by the application and/or system? If Yes, please state all the cryptographic algorithms used below	Y/N		Y=5, N=3	5	5		
			Is a passphrase used to protect the private key or cryptographic KeyStore used in the application	Y/N		Y=5, N=3	5	5		
			Is following controls used to protect the confidentiality of private and secret keys? - Stored inside the protected memory of a tamper-resistant security module	Y/N		Y=5, N=3	5	5		
			Is following controls used to protect the confidentiality of private and secret keys? - Stored as cipher text outside the protected memory of a tamper-resistant security module using a cryptographic algorithm			Please describe the cryptographic algorithm used				
			Is following controls used to protect the confidentiality of private and secret keys? - As two or more clear key components, with mechanisms in place to ensure that it is not easy to form the full key from the clear key components.			Please describe how the mechanisms are implemented below				
			Does the Service Provider have procedures established to identify and securely destroy or remove the Bank's production and backup data should the need arise	Y/N		Y=5, N=3	5	5		
			Can you engage, at its own cost, approved third-party to conduct independent IT or Cyber Security certification in compliance with customer's standards and policies before customer confirms procurement of the software and/or services.	Y/N		Y=5, N=3	5	5		
			SUM				45	45	100%	Level 5

				Vendor 0I Response Area						
Category Index	Evaluation Category	Evaluation Area/Description	Question	Answer : Y/N/NA	Quantification if applicable	Remarks/Artefacts /Credentials/Testimonial	Evaluate on the appropriate scale	Out of	% of score earne	Level
7.1	Suppliers & Partners	Alliances & partnership with reputed services providers	Are well-defined qualification criteria available for establishing alliances & partnership	Y/N		Y=5, N=3	5	5		
			SUM				5	5	100%	Level 5
7.2		Background check for vendor employees	Are there background checks being done for their vendors	Y/N			1	5		
			SUM				1	5	20%	Level 1
7.3		CSR Responsibility	How much percentage-wise are they meeting country's CSR reponsibiities?	Y/N		0%=1, <25%=2,<50%=	1	5		
			SUM				1	5	20%	Level 1

Figure 5.5.2: ***Evaluation Category –Legal and Compliance***

Figure 5.6: ***Evaluation Category –Suppliers and Partners***

iv. *Developing an evaluation tool:*

Once the proper evaluation category and the capability levels are established, an evaluation tool is developed using simple spreadsheet software like MS Excel. Each capability level is assigned a value from 1 to 5 or 1 to 10 to compute the scored values by a vendor for a particular evaluation criterion as follows.

$$Score\ Assigned = \frac{Assessed\ Level\ Value}{Maximum\ Value\ for\ the\ Evaluation\ Criteria}\ X\ Weightage\ of\ Evaluation\ Criterion$$

e.g. If process Maturity is assessed at Level 3 for a Vendor – A and the Weight assigned to the Process Maturity Evaluation Category is 5%, then

$$Score\ Assigned = \frac{3}{5}\ X\ 5\% = 3\%$$

Similarly, all the Vendor Evaluation Category is assessed, and individual scores are assigned. The total scores for all the Vendor Evaluation Categories are added to arrive at the final scores that are assigned to a Vendor. Refer to figure 6 below.

Category Index	Evaluation Category	Evaluation Area	Weightage	Vendor 01		Vendor 02		Vendor 03		Vendor 04		Vendor 05	
				Level	Score	Level	Score	Level	Score	Level	Score	Level	Score
1.1	General	Process Maturity	4.80%	4.00	4%	3.00	3%	5.00	5%	4.00	4%	3.00	3%
1.2	General	Agile Maturity	1.60%	1.00	0%	3.00	1%	3.00	1%	5.00	2%	4.00	1%
1.3	General	Demo of S/W services and fitness for use	1.60%	4.00	1%	4.00	1%	4.00	1%	4.00	1%	3.00	1%
2.1	Delivery & Technology	Performance against Industry benchmarks	6.00%	3.00	4%	4.00	5%	5.00	6%	5.00	6%	4.00	5%
2.2	Delivery & Technology	Knowledge management	6.00%	4.00	5%	2.00	2%	3.00	4%	5.00	6%	3.00	4%
2.3	Delivery & Technology	Documentation & Quality of Documentation for past projects	6.00%	5.00	6%	4.00	5%	4.00	5%	4.00	5%	2.00	2%
2.4	Delivery & Technology	Infrastructure, S/W and H/W investment	6.00%	3.00	4%	4.00	5%	2.00	2%	4.00	5%	3.00	4%
2.5	Delivery & Technology	CoE, Testing Labs, Innovation labs, libraries, Productivity council, Automation & tools	6.00%	3.00	4%	5.00	6%	4.00	5%	3.00	4%	4.00	5%
3.1	Financials	Financial Considerations/Strengths	6.00%	3.00	4%	3.00	4%	5.00	6%	4.00	5%	3.00	4%
3.2	Financials	Ratings, findings & compliance level of the external audits, assessments	4.00%	4.00	3%	3.00	2%	5.00	4%	4.00	3%	2.00	2%
4.1	Human Resources	Employee Strength	1.20%	4.00	1%	3.00	1%	5.00	1%	5.00	1%	3.00	1%
4.2	Human Resources	Bench Strength	1.40%	3.00	1%	4.00	1%	2.00	1%	4.00	1%	3.00	1%
4.3	Human Resources	Grade Competency Mix (Core Competency, Domain, Technical expertise & relevant experience)	2.00%	3.00	1%	5.00	2%	4.00	2%	3.00	1%	4.00	2%
4.4	Human Resources	Capacity plan & execution plan for taking new business, scalability, versatility	2.00%	3.00	1%	3.00	1%	5.00	2%	4.00	2%	3.00	1%
4.5	Human Resources	Technology Exposure	1.40%	4.00	1%	3.00	1%	5.00	1%	4.00	1%	2.00	1%
4.6	Human Resources	Domain Exposure	2.00%	5.00	2%	3.00	1%	5.00	2%	4.00	2%	3.00	1%
5.1	Customer	Customer Loyalty	4.80%	4.00	4%	4.00	4%	4.00	4%	4.00	4%	3.00	3%
5.2	Customer	End customer Evaluation criteria	2.88%	3.00	2%	4.00	2%	5.00	3%	5.00	3%	4.00	2%
5.3	Customer	Customer complaints	3.36%	4.00	3%	2.00	1%	3.00	2%	5.00	3%	3.00	2%
5.4	Customer	CSAT and Testimonials weightage	4.80%	5.00	5%	4.00	4%	4.00	4%	4.00	4%	2.00	2%
5.5	Customer	Reputed Cliental references, site visits and feedback	2.40%	3.00	1%	4.00	2%	2.00	1%	4.00	2%	3.00	1%
5.6	Customer	Industry experience: Success in similar & varied	2.40%	3.00	1%	5.00	2%	4.00	2%	3.00	1%	4.00	2%
5.7	Customer	Existing Long running Contracts	0.96%	3.00	1%	3.00	1%	5.00	1%	4.00	1%	3.00	1%
5.8	Customer	Global Exposure/Market Presence	0.96%	4.00	1%	3.00	1%	5.00	1%	4.00	1%	2.00	0%
5.9	Customer	Market rating in global and local market	0.96%	5.00	1%	3.00	1%	5.00	1%	4.00	1%	3.00	1%
'5.10	Customer	Legal dispute	0.48%	5.00	0%	3.00	0%	5.00	0%	4.00	0%	3.00	0%
6.1	Legal & Compliance	Information Security Considerations & Compliance	4.00%	4.00	3%	4.00	3%	4.00	3%	4.00	3%	3.00	2%
6.2	Legal & Compliance	Level of Security certifications & controls	6.00%	3.00	4%	4.00	5%	5.00	6%	5.00	6%	4.00	5%
7.1	Suppliers & Partners	Alliances & partnership with reputed services providers	4.80%	3.00	3%	4.00	4%	5.00	5%	5.00	5%	4.00	4%
7.2	Suppliers & Partners	Background check of vendor employees	1.60%	1.00	0%	2.00	1%	3.00	1%	4.00	1%	3.00	1%
7.3	Suppliers & Partners	CSR Responsibility	1.60%	1.00	0%	2.00	1%	4.00	1%	5.00	2%	4.00	1%
			100%		70.20%		71.78%		82.46%		84.61%		63.22%

Figure 6: Vendor Assessment Tool populated with vendor assessment across evaluation category

v. *Selection of Vendor:*

The selection of a vendor is not restricted to just one assessor. However, multiple assessors can be used to conduct vendor selection exercise. Thus, we will get multiple views/scores depending on the level of subjectivity that exists in the definitions of the capability levels of the evaluation category. In the final step, the vendor is selected based on the best parameterized score among all vendors. This score is arrived at by either summing up of all the individual ratings for a vendor as assessed by multiple assessors or by taking simple averages. Whether simple averages or sum-product should be used depending on various attributes assigned to assessors is beyond the scope of discussion at this time and is highly advised to be looked at for further research. Subjectivity is important to evaluate scores for each category based on which one matters the most. Totals and numbers cannot be conclusive. The human touch is inevitable to conclude on the vendor.

Explanation

Evaluation category weights based on scorecard ensure that more important category is given more importance as compared to lesser important category for vendor evaluation. In this step, evaluation category is granularly mapped and based on the capability and maturity of its performance the vendor can be rated at multiple levels vis-à-vis other vendors. There is a mathematical calculation of assigned scores based on a very granular study of the vendor which mitigates the risk of human bias as well as surprises post awarding of contracts. The vendor expectation is also set up front that detailed scrutiny as well as a systematic and professional approach is being followed by the outsourcer. This helps to building a level of consciousness in the vendor to ensure that objectives of outsourcing need to be met. It is not a rigid model and allows for capability level definitions to be reviewed from time to time in case of requirement changes. Qualitative and Quantitative selection methods are included in the algorithm relevant to the business. And on the limitations front, an expert is required to conduct the vendor assessment, thus even though it is a drawback, the expertise allows for the removal of oversight due to human inexperience. It is an elaborate and time-consuming process, but in the long-run, tangible benefits can be reaped as also the risks can be highly mitigated.

In this method, it is assumed that the vendor will provide realistic and factually correct data. In asking for the response to RFP it has to be clearly established that any falsification of data will render the bid invalid. Also, if at a later point in time any data is found to be falsified then stringent legal action will be taken and penalties will be imposed in addition to the cancelation of the contract if already awarded. Below is the diagram summarizing the entire vendor selection process.

Assumptions/Note #	Assumption/Note
1	Diamond Gemini (DG) is an huge MNC in Manufacturing, Construction and utility domain. DG wants to outsource 1.2 billion global contract. A tenor has been floated and various global vendors have applied for the same. However, there is no formal algorithm for vendor selection. Hence, DG is developing the Vendor Selection Algorithm.
2	The weightages and percentages in the algorithm can be tweaked depending on the proposal intricacies and dependencies
3	Configuring the sheet as per the proposal parameter is responsibility of the CoE team. Expexted TAT is 2 working days after receving the inputs from Sales, Pre-sales, delivery and Bid team .
4	Levels are mapped to CMMi, PCMMi level of Maturity. That does not mean that each level represents CMMi or PCMMi.
5	The main business to be outsourced is Application Management, Maintenance, Development in the waterfall model
6	This exercise is out of question for Agile proejcts, Devopps projects etc. It is strictly based on the waterfall model.
7	Generally, in Outsourcing the customer requirement is in four categoris as per the below situation. 1. Customer has capbilites but, timeconstraint 2. Cistomer want to release people for state-of-art business 3. Cost Saving 4. One time development. Hence, staffing for short period 5. Customer o not have capabilities. Depending on the above one or multiple categories, the algorithm can be twaked.
8	The current algorithm can be the building block for SIAM (Service Integration and Management) also.
9	The model assumes that irrelevant vendors has been filtered & only dependable as well as established vendors are being considered for this vendor evaluation matrix
10	This model does not consider soft factors regarding vendor shortlisting like political connection, established vendors registered under new name, delivery model (on-site, offshore, near-shore) or remote working kind of model.
11	This model does not consider for niche segment vendor (boutique vendor) who might be running a shop with handful of people (like Whatsapp) but may not be couned as established vendor
12	This model also does not consider the soft skills & time management demonstrated by vendors during RFP & RFI calls.
13	The evaluation will start by defining weigthage in Evaluation weightage excel. Depending on the emphasis & compliance required as per country & organization, the weightage should be first updated.

Fig: 7: Full Vendor Selection Process Source: Self Created

Future Scope of work

This vendor selection methodology can be extended for the SIAM model. Group level work for Integrator selection needs to be extrapolated/deduced/customized from the current model. Elementary level work for vendor selection (except Integrator) can be used directly from this exercise. The current work can be enhanced for the selected category for Multi-service Integration selection model for vendors. However, there will be always scope for customized models relevant to the domain or vertical which can be developed further using this base model.

Conclusion

The above research and case study have duly established that a parameterized technique of Vendor Selection is by far the most rigorous yet simple, cost-effective, scientific, systematic, and bias-free technique. Also, it can be concluded that a Parameterized Method of Vendor Selection sounds to be an ideal technique to perform Vendor Selection. Further, the capability levels for each individual evaluation criterion have to be established with robust definitions for each cross point of the capability to the evaluation category. Relevant experience of assessors is necessary for effective evaluation. Finally, vendors need to be assessed for their capabilities as against the evaluation category defined which will lead to a final rating score being assigned to the vendor. Rather than a subjective assessment this technique helps in achieving the objectives of outsourcing with a higher degree of scientific and well-documented approach. This model is to prepare Tier-1, Tier-2 and Tier-3 conglomerates, which outsource IT and ITeS services across different domains to quickly shortlist available vendors using a pre-defined and generic set of categories. This is primarily relevant when it is difficult to have a standard set of parameters to start with for shortlisting vendors. This model also gives flexibility in terms of customizing the weight age to be given to different sections like Delivery, Technology, HR, or financials as well as defining categories for different levels of vendor selection. Due to this centralized control using this model, the vendor's score will be impartially evaluated by the procurement team or committee and presented to the management for further saving a huge amount of time. This gives a neutral view of vendors, their execution capability, scalability, security controls and existing customers' satisfaction levels among others. In this research paper, we have examined and fine-tuned the vendor selection approach for new projects. This method provides flexibility to change the dimensions and weight age centrally, depending on the kind of projects and dimensions involved for the vendor selection. The details to

be captured in excel are in objective form, thereby making it easier for even lower cadre personnel to enter the required information and notice real-time effects on the scoring. This approach gives a neutral view of vendors, their execution capability, scalability, security controls, and existing customers' satisfaction levels among others. This also reduces the dependency on procurement personnel and gives a transparent as well as an impartial view of the vendors' selection procedure to the management. This research paper proves that the Delivery and supplier relationship management has positive and significant influences on Supplier evaluation whereas Quality and cost have a weak and insignificant impact on supplier evaluation. We have demonstrated how one can easily shortlist vendors in the shortest duration. Our experiments show that using this method can reduce vendor selection time by up to 80%. We have tried to cover the maximum parameters applicable for IT vendor selection. However, there is always scope for customizing and optimizing this model for any domain or vertical using the base model.

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