OPTIMIZATION TECHNIQUES FOR FINDING THE TURN AROUND THE REPUTED COMPANIES

Dr. B. DHARMA
Assistant Director
Dr.B.R.Ambedkar Open University
Jubilee Hills, Hyderabad
Email Id:drdharmab@gmail.com

Abstract: Routing is a process of forwarding the data from a known source to the destination. In this process, the data may travel through several intermediate paths, and there exist a need to select the best possible optimal nodes to forward the data. This optimal selection of nodes will enable to achieve a high performance in the network. Large amount of worked has been carried out to find the optimal path in the network routing to improve its efficiency and to remove congestion problems. A good routing algorithm should be able to find an optimal path and it must be simple we present here an effective general search strategy for the optimization of various objective functions for community detection purposes. When applied to modularity, on both real-world and synthetic networks, our search strategy substantially outperforms the best existing algorithms in terms of final scores of the objective function. In terms of execution time for modularity optimization this new approach also outperforms most of the alternatives present in literature with the exception of fastest but usually less efficient greedy algorithms. The networks of up to 30 000 nodes can be analyzed in time spans ranging from minutes to a few hours on average workstations, making our approach readily applicable to tasks not limited by strict time constraints but requiring the quality of partitioning to be as high as possible.

1.0 Introduction:

Companies do not have to fail Even the most distressed companies can resurface to again become strong world-class competitors in their industries. If the survival of individual firms can be achieved, financial systems will be more stable, workers will have greater security, shareholders will receive a yield on their life savings, governments can afford to operate, and managers will achieve dignity commensurate with their performance. If the individual firm does fail, everyone is affected it is merely a question of degree. Survival, however, is an active process involving new skills blended with historical expertise, new strategies based on previous successes, and new products to serve more competitive markets. Survival is virtually impossible if nobody wants to change. Yet, too much change becomes traumatic and dysfunctional. Survival requires innovation, stamina, integrity, discipline, prudence, and sacrifice. Too often, companies attempt to survive without modifying their behavior an approach which most always ends in

tragedy. Sometimes, companies delay too long waiting for a clearer picture of what should be done another disaster. Occasionally, too much change is introduced too soon a tactic which brings more confusion than progress. Other companies approach the turnaround process more systematically and achieve better results. Superior methods can save the firm. Inferior methods, employed at critical times, can destroy it. Although the lessons relating to turnarounds have been learned before and are consistent with established theories of management, a troubled situation also carries with it some uniqueness and particular requirements. The skills to manage adversity are not entirely commonplace. The sharp contrasts between successful and unsuccessful turnaround experiences, coupled with the enormous social and political realities of a declining industrial infrastructure, provide evidence that remedial management is a skill worthy of cultivation, a skill needed not only for companies, but also for societies.

Turnarounds Are Multifaceted:

The effect of business failure is widespread. Many other supplier and dealer organizations are also affected, as are financial and service institutions. The general community is affected in that when major companies close, the affordability of essential community services is inevitably reduced. Home prices decline, thus limiting mobility and making it difficult for even the most talented individuals to seek employment opportunities in new locations. The special skills developed by individuals, often in response to company needs, are frequently of limited value to other employers. Even those who have good work habits and valid training often have limited geographical or occupational alternatives. Companies rarely fail because of any one single cause. Inept company management is certainly a factor in some situations. Though many variables are involved in turnaround success or failure, competent management can impact most of them. Management is the principal catalyst and the root of ultimate responsibility in the revival of troubled firms. But the workers, financial intermediaries, government, and the community also have their responsibilities. Characteristics of the economy, the quality and personal traits of the people hired by the company, the degree of support from the community, and many other factors help determine turnaround success.

Factors in Successful Turnarounds

The general proposition advanced here is that a successful business turnaround involves improving the company's position as a low-cost provider of increasingly differentiated products and the products and services, along with the nurturing of an appropriate turnaround organization which is competent, possesses industry-oriented technical expertise, and employs a general sense of fair play in dealing with employees, creditors, suppliers, shareholders, and customers. Successful turnarounds involve this very special form of leadership. A more detailed description of the model being described is that successful turnarounds are a function of three principal factors:

- A strategy that focuses primarily on improving the firm's effectiveness as a low-cost operator Low-cost operation implies the design of

products for manufacturability, the attainment of high rates of manufacturing and inventory efficiency, and the containment of overhead costs to below industry levels.

- A strategy that focuses at a later stage on improving the firm's effectiveness as a provider of increasingly differentiated products Producing differentiated products implies products with distinguishing features, high reliability, and significant

Financial Restructuring:

In many of the cases, the interest burden was one of the important causes of decline. It would not have been possible for any of these declining firms to turn around without adequate financial restructuring with the help of banks, financial institutions and the parent company. These changes significantly reduced the expenses of the companies. Simultaneously, strengthening finance function in the organization is important. Cash flows need to be closely monitored and financial implications of all important decisions carefully evaluated.

2.0 Literature review:

B. Hawelka, I. Sitko, (2014)A new generation is created with the goal of improving the fitness. GA uses three operators: reproduction, crossover and mutation. First selective reproduction is applied to the current population so that the string makes a number of copies proportional to their own fitness. This results in an intermediate population. Second, GA select "parents" from the current population with a bias that better chromosome are likely to be selected. This is to be done by the fitness value or ranking of a chromosome. Third, GA reproduces "children" (new strings) from selected parents using crossover and/or mutation operators Crossover is basically consists in a random exchange of bits between two strings of the intermediate population.

KavithaSooda , (2011) Operation Research is a relatively new discipline. The contents and the boundaries of the OR are not yet fixed. Therefore, to give a formal definition of the term Operations Research is a difficult task. The OR starts when mathematical and quantitative techniques are used to substantiate the decision being taken. The main activity of a manager is the decision making. In our daily life we make the decisions even without noticing them. The decisions are taken simply by common sense, judgment and expertise without using any mathematical or any other model in simple situations. But the decision we are concerned here with are complex and heavily responsible..

AnantOonsivilai, Kulworawanichpong(2009) optimization refers to the process of choosing elements considered to be the best from several alternatives that might be availed. As such, one has to solve problems with the aim of minimizing or maximizing a real function. This can be achieved via choosing values of integers or real variables from a specified set of values. This makes transportation to be considered as simply being after finding an optimal distribution plan for a certain single commodity When commodity supply is available at various sources, demand tends to be specified for the commodity at every

destination, with transportation cost from source to destination clearly defined. In this case, the puzzle is in finding the optimal distribution plan that can minimize the overall transportation cost for product transportation from sources to destinations.

Anjum A. Mohammed,(2012)back-propagation neural networks technique to optimize the search engine for speedy retrieval of information from the web. The authors claim that using neural networks technique reduces the load of information that exceeds the limits of loaded information accessible through a particular user's requirements. The idea is to create profiles of user's behaviors while searching information on the Internet, and then optimize the websites based upon the characteristics collected through the profiling to acquire the desired results of achieving higher page ranks

3.0 Methodology:

Ant colony optimization technique is used to find the shortest path finding algorithm in spite of GPS(global position satellite) or any other method. ACO is a class of optimization algorithms modeled on the actions of an ant colony. Ant Colony Optimization (ACO) studies artificial systems that take inspiration from the behavior of real ant colonies and which are used to solve discrete optimization problems Our arena which is randomly created has white pixels showing clear area and black one for restricted entry. Different steps of a simple ant colony system algorithm are as followsOnce the business plan options are narrowed down, the liquidity needs should be analyzed, as well as the debt capacity and optimal capital structure of the business, taking into consideration the dynamics of the marketplace. This analysis will be compared to the company's existing capital structure to determine whether it is workable given the new realities of the business or if a restructuring or recapitalization would be more beneficial. This review should include evaluating the cost of debt, lender covenants, equity components and future capital requirements. If the company requires additional liquidity, M&A snapshot 3 the ability to place new capital within the existing capital structure will also be analyzed. This may be the most effective solution if a company simply needs additional liquidity to bridge the turnaround of the business. For larger liquidity needs, a more robust restructuring or recapitalization may be required.

Implement the turnaround:

Implementation can take various forms. There are generally three potential operational alternatives when assessing the path forward:

- Keep and restructure
- Sale as a going concern
- Wind-down and exit Gathering complete data is essential to the process.

Each of these strategies are discussed below. Keep and restructure – Solutions should be developed with the goal of delivering sustainable change and continuous process improvement. These solutions will focus on lowering operating costs, improving cash flow, and developing efficiencies that can lead to increased market share and higher margins. Operations can be optimized by addressing the following opportunities:

- Sustainable cost reduction: driven by transparent management of information and accountability
- Supply chain management: improving supply chain processes and eliminating risks so that the company can anticipate, create and manage changes necessary to remain competitive

Effect of Small Changes in Modularity Values on Partitions:

Here in order to stress the importance of looking for even the minor gains in the modularity score, we would like to show that relatively small changes in this partition quality function can be reflected by macroscopic variation of the communities involved. To illustrate this point, at first, we compared the partition with the highest modularity score of ten first networks (incidentally for all ten networks it is the one obtained by using Combo) from our modularity benchmark (their descriptions can be found in Supplementary Material with the partitioning obtained by Louvain method being one of the closest competitors. As shown in table I, differences in modularity score that one might consider to be relatively low can correspond to sizeable variations of partition. In order to quantify that difference we used normalized mutual information (NMI) (introduced in detail in the Supplementary Material It is scaled from 0 to 1 and the more similar partitions are the higher NMI they have, for identical partitions NMI equals to 1. We see that quite often difference in the modularity score less than 0.01 or even 0.001 which one might perhaps consider to be the minor deviation at the first glance, could actually result in substantial variations of the corresponding community structure with the corresponding NMI similarity values sometimes as low as $0.6 - 0.7$.

Process of Turnaround:

Organizations have to make a series of action choices during the turnaround process. 249 Effective action choices lead to improvement in performance in terms of productivity and resources. On the other hand, ineffective action choices can worsen the condition, even ending up with the dissolution of the company. Often, the top management arrives at decisions regarding these action choices with the help of external assistance like consultants. Efforts at generalizing action choices have led to the development of a typology of turnaround process.

Results and discussions:

Used back-propagation neural networks technique to optimize the search engine for speedy retrieval of information from the webThe authors claim that using neural networks technique reduces the load of information that exceeds the limits of loaded information accessible through a particular user's requirements. The idea is to create profiles of user's behaviors while searching information on the Internet, and then optimize the websites based upon the characteristics collected through the profiling to acquire the desired results of achieving higher page ranksThe Turnaround Management Society is an industry-specific organization that aims to promote best practice in turnaround management. Its members are turnaround professionals, distressed debt investors, and academics It is the objective of the Turnaround Management Society to bring together the

knowledge of turnaround management academics and the experience of turnaround management professionals. The TMS provides a link between academics who are engaged in research and the professional community that seeks research outcomes and, in turn, provides academics with professional insight, guidance, and feedback as well as supporting academics around the world and providing them with a forum to exchange information with other academics and practitioners, we are also engaged in our own research.

The Turnaround Management Society and its members uphold the highest ethical standards in the industry.

The Turnaround Management Society is developing the International Turnaround Management Standard™.

Its members are committed to professional development and research within the industry.

Its members are actively contributing to the professional and academic development of turnaround management.

All TMS members contribute to the development of the International Turnaround Management Standard™.

The TMS provides a place for the exchange of ideas, education, and discussion of turnaround management-related topics.

The TMS provides its members with lessons learned reports from past turnaround processes.

The TMS maintains a database of crisis situations, crisis factors, case studies, best practice, and advice.

The TMS organizes annual conferences that are open to all members in order to give them the opportunity to educate themselves, exchange ideas and experiences, and network with other professionals and academics.

.

Significance of Turnaround Management:

Turnaround management is the systematic and rapid implementation of a range of measures to correct a seriously unprofitable situation. It might include dealing with a financial disaster or measures to avoid the highly likely occurrence of such a disaster225 . When firms are doing so badly that failure seems imminent then turnaround management can restore performance and profitability. The increasing competition, rapid advances in technology and rising complexity of the business conditions accompanied by blend of customers and employees, the challenges for any corporate have been rising. Only a timely response to this situation can save organizations. But, due to management inefficiency, most of the corporate fail to identify the problems and therefore delay in taking precautionary measures affecting the owners, employees, customers, suppliers and the economy. To restore the organization on its normal course, a corporate turnaround is essential.226 Organizational turnaround is influenced not only by good management practices but also by shifts in organization.

Implementation Framework:

The strategic point for the implementation of the turnaround process is always a diagnostic review to establish the true position of the troubled company and to determine whether a turnaround is a viable option, as opposed to insolvency, immediate sale or liquidation

stage	Description	Actions
1	Management Change Stage	The board of directors or senior management decides a transition in necessary. 2.The turnaround agent, either internal or external, is selected and given some degree of authority.
2	Evaluation Stage	1.The nature and extent of problems are diagnosed. 2.The type of turnaround, strategic or operational, is chosen. 3. An action plan is prepared.
3	Stabilization Stage	1. Immediate problems are resolved. 2. Plans are put in place to improve operating and strategic performance. 3. Results are evaluated for acceptability. 4. When results are insufficient, the liquidation, sale or merger options are explored

Once the decision to proceed with a turnaround has been taken by the stakeholders, seven separate implementation processes viz., 'work streams' have to be undertaken to ensure that the seven key ingredients are in place. The seven key work streams have been identified as:

- crisis management,
- selection of the turnaround team,
- stakeholder management,
- development of the business plan,
- implementation of the business plan,
- preparation and negotiation of the business plan,

project management The integration and coordination of the above work streams is the overall management of the turnaround process. In most turnaround situations the turnaround leader will have to understand all seven work streams, although financial restructuring may be required where the troubled company is a subsidiary of a healthy parent. These work streams are the essential for the implementation tasks of the turnaround process.

Conclusion:

The current implementation limitations in terms of maximal network size it is able to handle within a reasonable time: due to memory constrains its current applicability limit is around 30 000 nodes on modern workstations. Running times are usually longer compared to the fastest greedy algorithms, but often considerably shorter than for other highly efficient optimization techniques: networks whose size is close to the above threshold can be handled within a few hours, while smaller networks of several thousand nodes only require minutes. Combo is thus an optimal choice when the quality of the resulting partition is of paramount importance, while the network is not too big and running time is not strictly constrained

References:

[1]B. Hawelka, I. Sitko, (2014) Cartography and Geographic Information Science 41, 260

[2]KavithaSooda ,(2011) "A Comparative Analysis for Determining the Optimal Path using PSO and GA", International Journal of Computer Applications (0975 – 8887) Volume 32– No.4, October

[3]AnantOonsivilai,Kulworawanichpong(2009) ;"Tabu Search Approach to Solve Routing Issues in Communication Networks" , World Academy of Science, Engineering and Technology 29

[4]Anjum A. Mohammed,(2012) Optimal Routing In Ad-Hoc Network Using Genetic

Algorithm" Int. J. Advanced Networking and Applications, Volume: 03, Issue: 05, Pages: 1323-1328 (2012)