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SUPPLY CHAIN MANAGEMENT IN LIFE INSURANCE COMPANIES IN INDIA

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Abstract

This study intends to reduce the operational expenses of insurance company proposal forms and policy papers by using SCM in the operations department of life insurance firms. The complete process of how the forms are delivered from suppliers to consumers, going through several departments and their flow from one point to another for various underwriting criteria is set out. Various expenses related with the distribution network of policy papers have been thoroughly examined. The time it takes for a proposal form to become a part of a customer's policy document is also examined. The emphasis is on reforming processes that are no longer necessary yet still exist. Based on data obtained mostly through questionnaires and personal interviews, the study develops a framework for assessing supply chain performance. According to the report, despite high costs paid in document processing at all levels, customer difficulties, failures in channel expansion owing to operational issues, loss of market share, loss of customer base, and loss of business, enterprises have not identified any other means of operation. The current study urges insurance businesses to implement more cost-effective business practices and provides context for why SCM is vital to them. A few critical ideas have been offered in this article on how operational delays may be eliminated while operating costs are reduced, as well as how customer retention and channel growth can be done properly and methodically.

Key words: Supply chain management, Life Insurance, Performance measures, Operations management, Process control

1. INTRODUCTION

Supply Chain Management, which was established in the early 1980s (Oliver & Webber, 1982), is now extensively used in both the industrial and service industries, resulting in enhanced logistics and efficient material handling, which leads to higher productivity at lower costs. Supply Chain Management's primary task is to connect important company activities and procedures with cross-enterprise business operations. (A.P. Barroso and others) In other terms, SCM is a concept "whose major goal is to integrate and manage the procurement, flow, and control of materials across different functions and many layers of suppliers using a whole systems approach" (Monczka, Trent & Handfield, 1998). As a result, we discover that "the entire

notion of SCM is truly foreseen in integration" (Pagell, 2004). A large deal of study has been conducted on supply chain integration (Gimenez & Ventura, 2005), which is regarded to be of tremendous strategic and operational value (Zailani & Rajgopal, 2005). Numerous studies based on primary data and empirical investigations have been conducted to

conclude that SCM integration and implementation (Chen, H., Themistocleous, M., and Chiu, K.H., 2004) will result in improved performance. (Agami.N, Rasmy.M, and Saleh.M) Even fewer are the research studies conducted on the deployment of SCM in the Operations Department of the Insurance industry (Ashill N. F .et.al). Various research investigations on service sectors have found that fundamental quality control processes fail owing to poor operating systems. Industry pressures have fueled innovations aimed at reducing costs in crucial tasks.

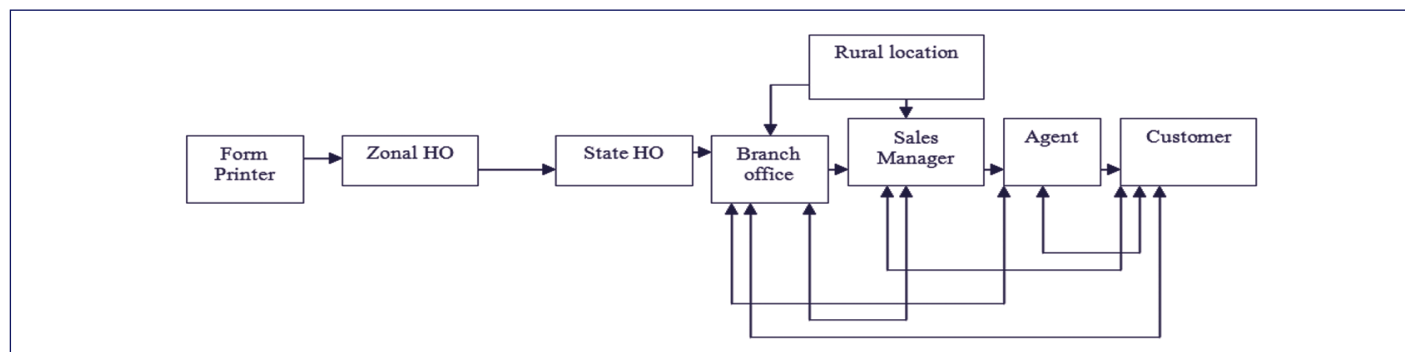
As has been observed in many sectors, if a sector is opened up to private actors, the incumbents always suffer difficulties. With their solid financial backing, excellent technology assistance, and comprehensive study and accurate and right knowledge, the new entrants found it much simpler to expand and succeed. Interestingly, this did not apply to the Indian life insurance business, where LIC continues to dominate even 21 years after the sector was opened up to private competitors. Private players were also needed to expand swiftly in order to compete, and they were particularly aggressive in this regard. They did not understand the large upfront costs involved with their growth, and their breakeven time, which was supposed

to be 10 years, has now increased to 30 years. This has put a strain on the private sector. In addition, they are also dealing with diminishing volumes as policy violations increase year after year. As a result, it is obvious that the insurance business should seek for a flexible delivery company capable of efficient operations.

According to the IRDA 2019 annual reports, there are 29 life insurance firms operating in India, contributing 2.3 percent of the country's overall economy, amounting to 7,87,072 crores of rupees. The fundamental causes of waste in insurance management techniques are needless delays in policy docket issuing, duplicate issues, poor operating systems, excessive costs, and a mismatch of customer demands. This necessitates the proper administration of a wide variety of procedures with various measures, ranging from the acquisition of the appropriate insurance forms through the issuing of policy dockets to clients.

The current policy documentation methodology is excessively complicated, and policy issuing takes much too long. Figure 1 displays the current routing of insurance forms used by insurance firms. Forms are typically obtained from a single printer stationed at a certain location throughout the nation. They are subsequently allocated to the zonal offices, which are then routed to the state head office and ultimately to the branch offices. The forms are distributed by the branch offices to the rural areas of that region. Forms are made available to sales managers in the branch office, who then distribute them to agents, who then deliver them to consumers. Typically, the forms vary based on the type of product (ULIP/Traditional, for example). Customers complete the forms with the assistance of agents and return them to the branch office together with the appropriate papers. As a result, the branch office may get completed proposal forms from consumers either directly or indirectly via the same path but in the other way..

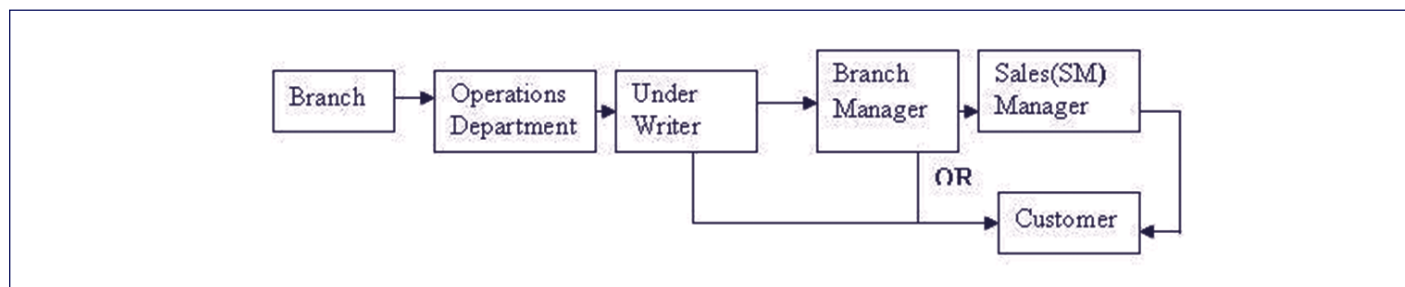
Fig.1 Routing of proposal forms & policy dockets



When the completed forms arrive at the branch office, the policy documents are thoroughly screened by the operations department, examined by the underwriter, and then returned

to the consumer, which is a lengthy and time-consuming procedure. Figure 2 displays the method used by insurance firms to issue policy documents to clients.

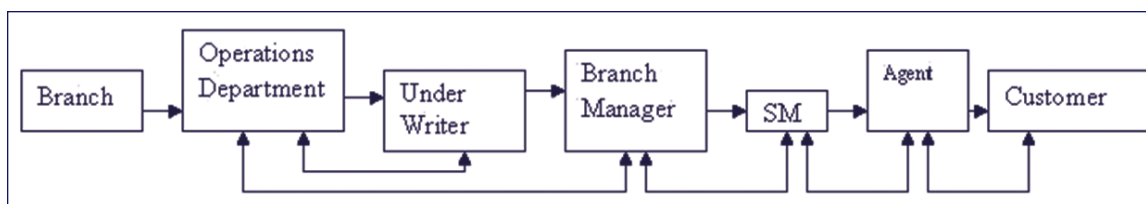
Fig. 2 Process of issuance of policy dockets to the customer



The underwriting staff distributes policy paperwork directly to clients in urban areas, but to the branch manager in rural areas. The branch manager then gives the policy documents to the sales manager, who distributes them to the consumer either

personally or through agents. In the event of a discrepancy from either the client or the branch operations team, a new method, represented in Figure 3, is used to route forms from the branch to the underwriter and back to the consumer..

Figure 3 Process adopted by insurance companies in case of refusal by the underwriting department.



The whole procedure represented in Figure 2 is repeated, and the client is addressed once again if any clarification about the given details is necessary. This frequently results in the client cancelling the coverage owing to (i) the long time it takes the firm to complete his application or (ii) his refusal to meet the conditions stated by the company. Businesses must help streamline and counter insurance plans and advances that have resulted to suit the specific needs of policyholders as a first step forward into reducing organisational latency, with such a special focus on reducing operational costs, which account for nearly 7% of the total of the company's different costs lead to improper mobility of regulatory papers. (Kumar, Thomas, 2016).

In terms of policy form production and distribution, they are printed in large quantities without any market study and sent to branch offices via state head offices. At no point is a product need analysis performed, and each transaction incurs significant financial and human costs. In reality, there is no feedback system in place to learn about the requirements of certain types of forms, their availability, or their use. Furthermore, no one in the firm is held accountable for these documents. As a result, it is critical for the sector to spend not just in development and distribution, but also in processing and customer service. As a result, this paper is an attempt to establish a process-oriented framework in the Operations Department of Life Insurance firms in order to minimise operations expenses and issuance time, hence enhancing customer satisfaction and influencing company growth. The study also discusses trends, difficulties, and potential solutions for logistics management in SCM that will be implemented in the insurance sector using principles from Operations Research (OR) disciplines applied to specific domains. The study finishes with ideas for prospective applications of the suggested framework in the insurance business.

II. CONTEXT

In terms of SCM adoption in the service sector, it has been implemented in the health, IT, and financial sectors, but it has not been used in the insurance business, nor has any study been conducted in this respect (Shukla & Shrivastava, 2019). The authors gained firsthand knowledge of the operational systems of the firms' operations departments while working with numerous life insurance companies in various roles (Hammer M and Champy J, 1993). During their time with the firms, they thought that the intricate subtleties involved in form processing should be eliminated or simplified, which would undoubtedly aid in decreasing operational delays and costs, as well as boosting customer happiness and company success. The following are some of the reasons why the insurance sector should use supply chain in the operations department: Shukla and Shrivastava (2017)

- a) Insurance underwriting forms are critical to the firm since they serve as a contract between the company and the consumer. However, it entails a lot of actions that are needless and consuming since they require regular tracking, involve duplication, and become too expensive for a firm without bringing value to the organisation in

terms of client retention and organisational expansion goals..

- b) The expense of processing documents at multiple levels and in different places is enormous. Customers have troubles, personnel are de-motivated, channel development fails owing to operational issues, and customers are lost.
- c) Customers are frequently dissatisfied due to the lengthy and complex process of issuing policy documents. Furthermore, if the policy registration fails for any reason, customers are inconvenienced because they must repeat the process.
- d) If customers are dissatisfied, they will cancel their policies, resulting in a significant loss for the company. Despite the fact that insurance companies have been dealing with these issues for a long time, they have yet to find a solution. (Ba.S. and W.C. Johansson)
- e) There have been no empirical studies to date on the implementation of supply chain in the operations departments of life insurance companies. If insurance companies use a supply chain system diligently, the problems mentioned above may be eliminated or at least minimised.

III. OBJECTIVES OF STUDY

The current researchers believe that it is necessary to investigate various areas such as the availability of proposal forms in respective branches, its tracking for issuance from underwriting to respective customers, and the factors that cause delays in the issuance of policies to customers. At the same time, the researchers believe that cost savings can be achieved by making changes to the routing of forms in the Operations Department. (Shukla and Shrivastava, 2019). The objectives of pursuing the present study are to show the advantages of implementing SCM in the Life Insurance Operations Department such as:

- a) Minimizing Operational Delays
- b) Minimizing the routing of proposal forms
- c) Reducing unproductive time in tracking for issuance of policies
- d) Reducing Operations Cost (Craighead C. W., Hult G. T. M., and Ketchen D.J, 2009)
- e) Improving customer satisfaction and their retention rate
- f) Increasing service quality (Quayle, M., 2003)
- g) Increasing company's profit
- h) Increasing and improving overall performance of the Company.

The other objective is to propose a conceptual framework for SCM with propositions of further research addressing the role of SCM in Operations Department in Insurance sectors.

IV. HYPOTHESIS DEVELOPMENT

The SCM practises employed in this study can be broadly classified into four types: (a) Efforts to improve operational efficiency by reducing operation delays (b) Lowering

operational costs through the implementation of quality practises (c) Efforts to improve customer satisfaction and service; and (d) Increasing the company's performance. (Volker M. Grötsch, Constantin Blome & Martin C. Schleper, 2013). The hypotheses which will be tested are as follows:

- H1 There is corelation between minimizing Operation delays and growth of company.
- H2 There is corelation between reducing Operations cost and growth of company.
- H3 There is corelation between implementing SCM and improving Customer satisfaction.
- H4 There is corelation between implementing SCM and increasing the performance of life insurance companies.

V. RESEARCH METHODOLOGY

This study employs both qualitative and quantitative research methods. The survey method was chosen to collect primary data. The factors identified by factor analysis of branch managers', operations managers', sales managers', and agents' perceptions were considered dependent variables, while position, experience, and age were considered independent variables. Two open-ended questions were asked to gather information about issues related to SCM implementation to improve customer service and company growth. The personal responses of all groups to these open-ended questions were used as qualitative data. (Chopra Sunil , Menddl Peter , Kalara D.V, 2009). A semi-structured questionnaire was developed from the revised instrument based on Brownell (18) and Ng and Pine (19).

The population comprised of Branch managers, Operation managers, Sales managers and agents associated with eight leading private life insurance companies from different states of India which were in existence for more than ten years. The sample consisted of 16 Branch Managers, 16 Operations Managers, 200 Sales Managers & 200 Agents from eight leading Life insurance companies : ICICI Prudential Life Insurance, Aviva Life insurance, Tata AIA Life Insurance, Kotak Mahindra Old Mutual, , Max Life, SBI Life, Exide Life Insurance and Birla Sun Life. Questions were send through survey monkey. com. Out of a sample of 432, only 256 responded. The questionnaire consisted of 8 questions (2 questions for each objective).

Primary data was gathered through the distribution of questionnaires to managers and individual interviews with them. Secondary data on the establishment and operation of affiliated firms in important industries such as retail, healthcare, telecommunications, and airlines was gathered from the available literature (journals, research papers, annual reports, and so on).

Survey Questionnaire: The survey-questionnaire contained four questions. The five items for question 1 on factors responsible for operational delays were: form non-availability, too many check centres for submitted forms, denial of access to

sales team, form duplication, and company norms constraining. Participants were asked to rate their experiences on a five-point Likert scale. (5= very important, 4= important, 3= doesn't matter, 2=not important and 1=least important).

Question 2 focused on the factors that contribute to lower operating costs. Respondents were asked to rate the importance of factors that could help reduce operations costs. The five items chosen were: spot issuance, the same type of forms for all products, the availability of forms in one location, technological use, and clearly defined company norms. Respondents were once again asked to rate themselves on a five-point scale.

Question 3 was about increasing customer satisfaction. The five items chosen for this were: too many requirements that were not previously disclosed, internal customer dissatisfaction, timely receipt of policy documents, customer switching to another company, and policies that were not transparent to customers.

Question 4 focused on the factors responsible for increasing and improving the company's performance. The five items chosen were: rapid issuance of policy documents, customer base development, customer trust building, profit/revenue margin improvement, and business expansion and growth.

VI. RESEARCH DESIGN

The record keeping provided trustworthiness and reliability by chronicling specifics of the methods and decisions made at all stages of the research (Craighead C. W. and Meredith J, 2009). The researchers added value by purposefully grouping themselves across interviews and analyses to gain a better understanding of the participants' perspectives. The audio tapes, which recorded the participants' actual statements, added to the reality. The questionnaires used to interview the 16 branch managers and 16 operations managers are listed below.

1. What factors contribute to insurance industry operational delays?
2. What steps can be taken to cut operating costs?
3. What steps can be taken to enhance customer satisfaction?
4. What efforts should be made to boost and improve the performance of the company?

Following meeting direction, the meetings were interpreted from sound tapes to electronic organisation. Willig's four-phase phenomenological investigation was used to lead the information examination. The meetings were read a few times as an underlying experience with the meeting scripts. A slew of unfocused notes was produced. The second phase of the investigation included identifying and marking the emerging topics, both subordinate and central subjects. These subjects noticed a few repeating designs cutting across the data. The pith of what was found in the text was used to code recognised topics. Topic rundown tables were created (Romsdal Anita,2008) Ultimately, four significant subjects emerged from the data. The table 1 below lists the top topics and sub-topics that emerged from the stories.

Table 1: Themes and sub-themes

Master Themes	Sub-themes
I Reducing Operation delays	i. non- availability of forms ii. too many check centres for the submitted forms iii. denial of access to sales team iv. duplicating of forms v. the constraining company norms
II. Reducing operations cost	i. spot issuance ii. same type of forms for all products iii. availability of forms at one place iv. technological use v. clearly defined norms of the company
III. Improving Customer satisfaction	i. too many requirements not earlier disclosed ii. dissatisfaction of internal customers iii. not receiving policy documents in time iv. switching of customers to other company v. no transparency of rules
IV. Increasing the performance of life insurance companies	i. quick & fast issuance of policy documents ii. developing customer base iii. improving profit/revenue margin iv. building trust with the customers v. business expansion and growth

The classifications were educated by the review's motivation, the analysts' information and the implications were made express by the actual members.

VII. DATA ANALYSIS

The current study sought to investigate the perceptions of branch managers, operations managers, sales managers, and agents regarding significant factors that can reduce insurance company operation delays and costs. The goal was also to determine whether implementing SCM would increase customer satisfaction, thereby contributing to the company's growth and development. The findings in this section are based on a preliminary examination of the interview transcripts. Interview questions guide the presentation of findings.

H1: The first hypothesis stated that there is corelation between minimizing operation delays and growth of company. The first open-ended question, about the factors that cause operational delays in the insurance sector, was answered by 211 out of 217 participants. The majority (72%) believe that direct transaction costs increase branch and company revenue while decreasing profits. Processing costs add no value to the company or the customer. Underwriting requirements lengthen the turnaround time, causing problems with policy issuance. All related functions are tracked in terms of both time and cost. Customers lose faith in the company as a result of the policy document delay. In the long run, ethical concerns arise. Long-term overlap between new and existing business appears. The number of policies that are available for free review is growing. Everything has an effect on the company's growth. Thus the first hypothesis is accepted

H2: There is corelation between reducing operations cost and growth of company. The second question from the questionnaire was considered to determine the significant relationship between lowering operations costs and company growth. According to the responses gathered, there are too many process stations and manpower involvement, which leads to complications and loss of effective man hours because the time required for tracking each discrepancy is too high and involves almost everyone involved with that job. Minimizing this may assist the company in making the best use of its available resources and manpower. Also, the logistics of the insurance forms from the printer from which it was sourced to the final policy document that reaches the customer are too high, which can be reduced by either spot issuance or using technology, where all forms should be scanned and sent to the underwriter. Managers at all levels agreed that the timely and proper availability of the forms and their issuance saved them a lot of time tracking the status and allowed them to focus more on business, which led to the company's growth. Thus, the 2nd hypothesis may be accepted.

H3: There is corelation between implementing SCM and improving Customer Satisfaction. This open-ended question was answered by 202 of the 217 respondents. There were fifteen missing responses. The majority of participants (58%) believed that customers were generally dissatisfied with the Company's services due to late issuance of their policies or other requirements of either documents or information to be provided at various times by the underwriting team. This time, the entire team in charge of the case is involved. The absence of even one member of the team causes delays in issuance, which leads to employee and customer frustration. The current study's overall findings support the third hypothesis. In other words, implementing SCM would almost certainly increase customer satisfaction.

H4: According to the fourth hypothesis, there is a link between implementing SCM and improving the performance of life insurance companies. 211 out of 217 participants responded to the open-ended question about steps to be taken to increase and improve the company's performance. Most participants agreed that quick, faster, and timely policy issuance was critical to increasing and improving company performance because employees and channel partners were highly motivated. Customers stated that because of the reduced processing time and requirements, they began to develop trust in the company and its operations. Branch Managers stated that it assists the company in accepting and confronting business challenges from competitors, as well as creating goodwill in the markets. Thus, the overall findings indicate that the fourth hypothesis, stating that there is a significant relationship between implementing SCM and increasing the performance of life insurance companies, is proven.

VIII. FINDINGS

According to the survey results, the basic input cost is significantly higher due to the existing complex operation system. The direct transaction cost increases branch and company revenue, lowering profits. The cost of processing

adds no value to the company or the customer. Underwriting requirements increase turnaround time, causing policy issuance issues. Parallel tracking requires both time and money from all related functionaries. Customers lose faith in the company as a result of the delay in receiving policy documents. Ethical issues emerge, and the rate of policy review increases. Long-term duplication of new and existing businesses is possible. Expansion plans have been pushed back due to business losses and shrinking profit margins. Finally, the customer base decreases and quantum business comes down (Cvetic.B, 2009)

Fig .4 Research findings in illustrated form

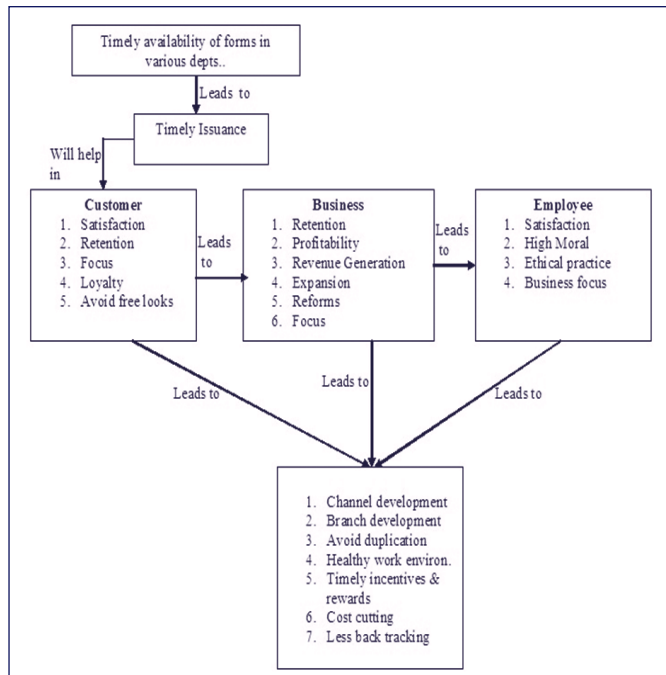
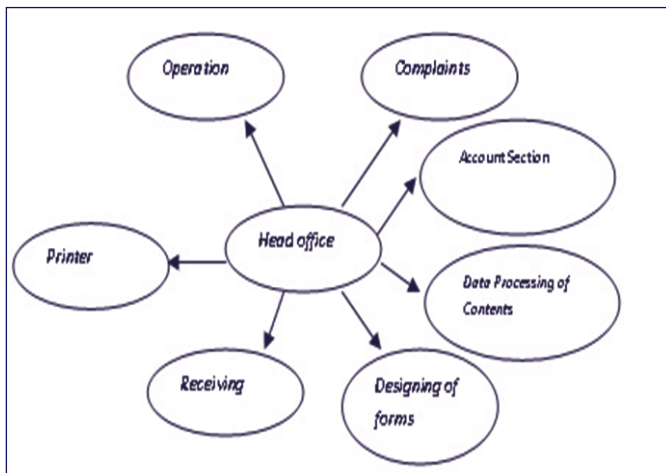


Fig.5 Operational Chart



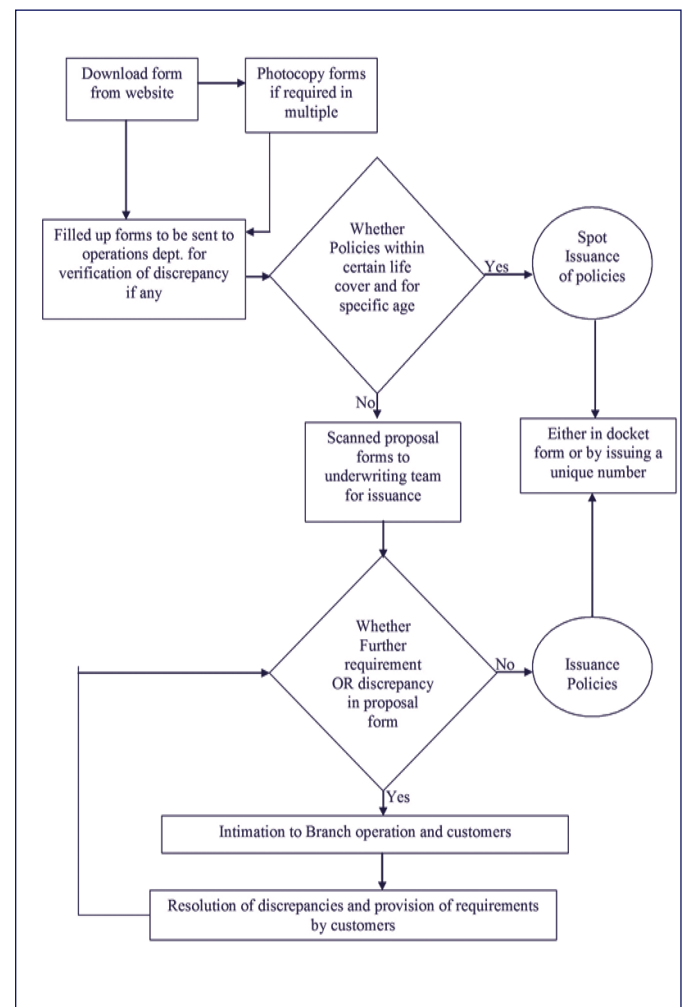
The findings of the research can be represented by the following diagram.

Figure 5 depicts the operational chart for the process to be followed in any organisation in the sector discussed in this paper.

Figure 7 depicts the location of form sourcing. In our study, location refers to whether the forms are to be sourced at the

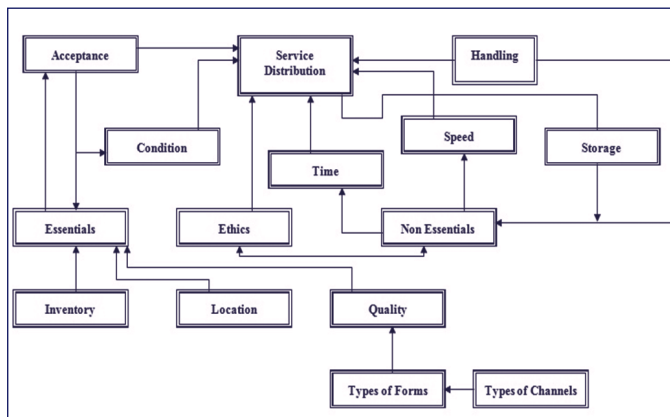
regional (state) level, urban (in cities), or rural (remote) level. Form sourness primarily refers to various types of forecasts. These forecasts are based on business months (in India, business months for insurance products are primarily from October to January), the team size operating in a specific area, the company's past records regarding the requirements, and the company's expansion plan, if any, in terms of team size or branches. These forecasts will assist businesses in determining the number of forms required. Companies can purchase those forms based on their requirements. Aside from forecasting, factors that lead to requirements include the technological support available in the specific area, inventories on hand, permission to download required quantities, and information about the type of facilities provided. Once the requirements have been thoroughly understood, it is critical to determine whether orders should be placed in bulk or in instalments. There are numerous factors that influence the purchase of forms. The company must track the supplier who has the ability and capacity to provide the forms in the required quality, quantity, and price at the required locations at the required times. To achieve strategic fit with the competitive strategy of a business organization there should be a balance between need & supply, demand & want which the chain aims at. (Fig.5)

Fig.6. Shukla & Shrivastava Proposed Model of SCM to be applied in Operations Department.



Future Research Directions: The findings of this study will be useful for other examination researchers who need to effectively research and implement this innovation in other areas of assistance. If carried out correctly, the review will help in cost reduction as unnecessary cycles will be eliminated from the framework. This study will lead to the essentials and non-essentials in study of sourcing of forms. Fig. 8 reveals that time, speed, storage, handling and ethics become non essentials and types of business channels, types of forms required, inventory management, Quality of forms, business location and condition of forms become the service essentials.(Supply Chain Council,2006)

Fig.8 Insurance from Distribution & Supply Chain Management.: The Essentials and Non-Essentials.



IX. SUGGESTIONS

SCM Application Implementing the above-mentioned model in the operations department of insurance companies will undoubtedly reduce operation delays, reduce operational costs, and improve customer satisfaction, thereby influencing insurance company growth and expansion. Underwriting and non-underwriting forms can be combined. Forms can be downloaded directly and printouts for required quantities can be obtained in the respective branches. (Gimenez, C., and E. Ventura, 2009) Policies within a certain range of insured amount can be issued directly by the branch manager or the branch operations team. Customers should not be given paper policy documents, but instead a unique ID. The agents, customers, and sales managers all agreed that medical underwriting and requirements were major impediments to the fast issuance of policies and should be communicated to the underwriting team as soon as the customers' medical exams are completed. After being called into the branch office, remote location policy documents can be handed over to the agents. All forms that require underwriting can be scanned and sent to the underwriting team for review before being returned to the branch for final printouts and issuance. (Fig.6)

X. CONCLUSION

This paper explains how implementing SCM in the insurance industry can reduce operation delays, lower operating costs, and increase customer satisfaction, all of which affect the growth and expansion of insurance companies. The supply chain has had a significant impact on industry, but the academic community is

still learning about this powerful strategy. As a result, it will be incumbent on the academic community to provide well-founded theories to explain the phenomenon of supply chain. In other words, supply chain lacks a theoretical foundation, and it is our responsibility as academics to bridge the gap between supply chain theory and practise. Theoretical and managerial implications: Implementing SCM in the operational process will reduce operational defects. It eliminates operational issues, bringing the system as close to "Zero defects" as possible. It will improve customer service in the life insurance industry by shortening service times.

Based on the research findings and interviews, the following model is proposed to simplify the existing operation system

REFERENCES

1. Agami.N, Saleh. M, and Rasmy. M, "A hybrid dynamic framework for supply chain Performance improvement," *IEEE Syst. J.*, vol. 6, no. 3, pp. 469–478, Sep. 2012.
2. Ashill N. F. , Rod. M, Thirkell.P, and Carruthers. J, "Job resourcefulness, symptoms of burnout and service recovery performance: An examination of call centre frontline employees," *J. Serv. Marketing*, vol. 23, no. 5, pp. 338–350, 2009.
3. Ba.S and Johansson W.C, "An exploratory study of the impact of service process on online customer satisfaction," *Prod. Oper. Manage.*, vol. 17, no. 1, pp. 107–119, Jan./Feb. 2008.
4. Barroso A.P. et all "The Resilience Paradigm in supply chain management: A case study", *proceedings of 2011, IEEE IEEM*, pp. 928-932, 2011.
5. Chen, H., Themistocleous, M., and Chiu, K.H., 2004, *Approaches to supply chain Integration followed by SMEs: an exploratory case study: In the Proceedings of the tenth Americas conference on information systems*, New York, 2610-2620
6. Chopra Sunil , Menddl Peter , Kalara D.V *Supply Chain Management(2009), strategy, planning and operation*, prentice hall 3rd edition
7. Craighead C. W. , Ketchen Jr. D. J., Dunn K.S, and. Hult G.T.M, "Addressing Common Method Variance: Guidelines for Survey Research on Information Technology, Operations, and Supply Chain Management, *IEEE TRANSACTIONS ON ENGINEERING MANAGEMENT*, VOL. 58, NO. 3, Pp 578-588, AUGUST 2011
8. Craighead C. W. and Meredith J., "Operations management research: Evolution and alternative future paths," *Int. J. Oper. Prod. Manage.*, vol. 28, no. 8, pp. 710–726, 2008.
9. Craighead C. W., Hult G. T. M. , and Ketchen D.J, "The effects of innovation-cost strategy, knowledge, and action in the supply chain on performance," *J. Oper. Manage.*, vol. 27, no. 5, pp. 405–421, Oct. 2009.
10. Cvetic. B., "A Conceptual Model For Supply Chain Performance Management And Improvement", *Advances in Business-Related Scientific Research Journal (ABSRJ)*, Volume 3 (Number 1, pp 62-75, 2012
11. Gimenez, C. and Ventura E., "Logistics-production, logistics-marketing and external integration – their impact on performance", *International Journal of Operations and Production Management*, Vol. 25 No. 1, pp. 20-38., 2005

12. Hammer M and Champy J., *Reengineering the Corporation: Manifest for Business Revolution*., 1st Ed., New York, NY: Harper Business. Management Review, Vol. 28, No. 2, pp. 65–71, (1993)
13. IRDA 2019, Annual Report
14. Klassen R.D. and Menor L.J., *The process management triangle: An empirical investigation of process trade-offs. Journal of Operations Management* 25(5):1015–1034. 2007
15. Kumar.S and Thomas.B. "Overcoming scale disadvantages in life insurance operations" Infosys viewpoint, www.infosys.com,2006
16. Lance C. E., Dawson.D, Birkelbach. D, and Hoffman.B.J, "Method effects, measurement error, and substantive conclusions," *Organizational Res. Methods*, vol. 13, no. 3, pp. 435– 455, Jul. 2010.
17. Liu Yinbin, Li Hongbo., "Research on DCOR-Based Integrated Information Resource Management Platform of Supply Chain System", 2009 International Forum on Information Technology and Applications, IEEE, Pg513-516, 2009.
18. Mentzer J.T, DeWitt W., Keebler J.,Min, S.,Nix,N.,Smith, C., et al,(2001) *Defining Supply Chain Management*, *Journal of Business Logistics*; 22(2), 1-25
19. Monczka, Robert, Robert Trend and Robert Handfield (1998), *Purchasing and supply Chain Management*, Cincinnati, OH: South-Western College Publishing, Chapter 8
20. Nyere J, *The Design-Chain Operations Reference-Model*. www.supply-chain.org, 2007.
21. Oliver R.K., and Webber. M.D., "Supply chain management: logistics catches up with strategy", *Logistics: The Strategic Issues*, Pitman, London, pp. 63-75.1982
22. Pagell, M. 2004. *Understanding the factors that enable and inhibit the integration of operations, purchasing and logistics. Journal of Operations Management*, 22 (5): 459-487.
23. Supply Chain Council, *The Design Chain Operations Reference Model (DCOR) Version 1.0* www.supply-chain.org. 2006.
24. Tan,K.C.,2001, *a Framework of Supply Chain Management Literature*. *European Journal of Purchasing & Supply Chain Management*,7,39-48
25. Quayle,M., 2003, *A study of supply chain management practice in UK industrial SMEs*. *Supply chain management: An International Journal*,8(I), 79-86
26. Romsdal Anita, *journal of Norwegian University of Science and Techn., Dept. of Production and Quality Eng.*,NTNU – Valgrinda, N-7491 Trondheim, Norway, volume 39,dated march 2008,pp.68-73..
27. Shukla M.R., Shrivastava, 2017," *Supply chain Management process: Process Innovation and evaluation of a process oriented framework in operations department of Lie Insurance Company*", 1st International conference on Best Practices in Supply Chain Management", SOA University, Bhubaneshwar.
28. Shukla M.R., Shrivastava, 2019," *Supply chain Management process, A Life Insurance perspective* 3rd International conference on Best Practices in Supply Chain Management", SOA University, Bhubaneshwar, Proceedings
29. Tomlin Brian May 2006, *On the Value of Mitigation and Contingency Strategies for Managing Supply Chain Disruption Risks*, Kenan-Flagler Business School, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina 27599-3490, Volume 52 Issue 5, pp. 639-657
30. Volker M. Grötsch, Constantin Blome & Martin C. Schleper, 2013, *Antecedents of proactive supply chain risk management – a contingency theory perspective*, *International Journal of Production Research*, Volume 51, Issue 10, pp 2842-2867.
31. Zailani, S., Rajagopal, P., *Supply chain integration and performance: US versus East Asian companies* .*Supply Chain Management: An International Journal*, 10 (5), pp.379 – 393. 2005

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