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Identification of the main Innovation Management Techniques (IMTS) aiming the Improvement of Firm Competitiveness by Means of Knowledge Management

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Abstract - One of the main differentiating factors among businesses nowadays, according to open innovation, is their capacity to take in information from outside sources. very small enterprises (VSEs) approaches to and management of innovation, however, have received less consideration. Actually, the majority of VSEs lack the competence to independently execute innovation. Methodological approaches to knowledge management that seek to increase businesses' competitiveness are known as innovation management techniques (IMTs). In this study, we create, test, and assess a novel IMT-indented approach for VSEs in underdeveloped locations, like India's Chhattisgarh. According to the outcomes of the pilot IMT application, the entrepreneurs had a favorable reaction. The results of this research provide credence to the idea that, regardless of a company's size, innovation implementation is directly correlated with its inventive people resource.

Keywords - Entrepreneurs, VSEs, Company, IMT, Innovation, Management.

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INTRODUCTION

To keep up with the ever-evolving business industry and its fierce competition, companies are always seeking for new ways to innovate. Strategic integration of Innovation Management Techniques (IMTs) is one of several available techniques that may boost a company's competitiveness. Carefully focusing on knowledge management (KM) methods is key to this approach. This approach acknowledges that information is a key asset for encouraging innovation and long-term sustainability. [1] "Innovation management Techniques " (IMTs) include a broad variety of strategies, models, and tools designed to encourage innovation in companies in a methodical way. As catalysts, these tactics have the potential to cultivate an environment that is open to new ideas, experiments, and constant improvement.[2] The basic objective of innovation management Techniques (IMTs) is to accelerate innovation; however, how IMTs are put into practice varies according to business needs, industry trends, and advances in technology. [3]

An integral part of information management Techniques (IMTs') efficacy is knowledge management, which focuses on the discovery, creation, dissemination, and use of an organization's knowledge assets. [4] To facilitate the creation and application of insights, expertise, and intellectual capital—the fuel that powers the innovation engine—knowledge management (KM) serves as the foundation within the framework of innovation administration. [6] One of the most significant IMTs that tries to employ knowledge management for greater competitiveness is the creation of a culture that supports information sharing. [7] To achieve this goal, it is essential to create an environment where staff members, divisions, and even external stakeholders may freely exchange explicit and tacit information. By encouraging interaction and removing obstacles, organizations may access a wealth of different points of view. As a result, creativity may permeate the whole business. [8,9]

Information management technology also includes knowledge stores and platforms for collaboration. Important information assets including research findings, best practices, and lessons learned are best preserved, organized, and made accessible via these digital ecosystems, that act as central repositories. [10] Organizations are able to speed up the process of making decisions, decrease risks, and expedite the pace of technological advancement when they give seamless access to information that is critical to their operations. Also included in IMTs are methods like Open Innovation and Co-Creation, which stress the need of engaging with outside parties like consumers, partners, and even rivals to generate innovative ideas. [11] Through the use of external expertise and resources, companies could improve their innovation capabilities, tap into unexplored markets,

and stay ahead of emerging trends and customer preferences. [12]

To top it all off, IMTs include IP management processes, which ensure that fresh ideas are protected, made money off of, and used strategically to stay ahead of other businesses. To safeguard important discoveries while also providing chances for commercialization and revenue generation, intellectual property (IP) such as patents, trademarks, trade secrets, and copyrights may be efficiently maintained. [13] In conclusion, in today's dynamic economic climate, companies must discover and strategically use Innovation Management Techniques (IMTs) aimed at leveraging knowledge management if they want to stay competitive. [14] The ability to uncover novel opportunities, promote environmentally friendly growth, and retain a leading edge in their respective industries may be achieved by businesses that cultivate a culture of creativity, harness the power of information exchange, and use external partnerships.[15]

METHODOLOGY

This article presents the IMT approach, a pilot study that uses it, In a less developed part of India, the initiative aimed to become the primary vehicle for bringing innovations to businesses in the Chhattisgarh area. In terms of personnel, 90% of businesses in the Indian subcontinent employ 10 or more people, with an average of 4.5 people. Half of these businesses rely only on the owner's labor, and a third of them have fewer than five employees.
Most of the enterprises in the area are VSEs, and that's why this project's IMT technique was made with them in mind. Researchers looked examined every study that had anything to do with India's ability to innovate. Organizational innovation, rather than product-level (technical) innovation, is the most prevalent kind of innovation, according to these studies. Businesses in the Chhattisgarh areas still see computers and the internet as frivolous, despite the fact that they are crucial resources that impact the day-to-day operations of any company. A number of important bureaucratic, economic, and institutional issues are obstructing growth and flexibility initiatives.

The regional level is characterized by disorganized action on the part of all authorities, organizations, institutions, and procedures meant to support innovation and entrepreneurship. Based on these studies, it is recommended to address organizational innovation first, where companies in the Chhattisgarh region have better performance and comparative readiness, before moving on to product and process innovation. This will be the most efficient and effective approach. In order for the participating firms to better understand and apply the technique, it became clear from these studies that the IMT proposed method needs to incorporate simple, well-known, conventional criteria of entrepreneurial practice. These criteria should be applied to each company's daily needs and problems. Despite this "change" from the traditional IMT methods, great care was taken to guarantee that the technique that was created matched the globally recognized criteria for any IMT operation. When it comes to changes that are usual practice for bigger organizations, very small enterprises (VSEs) often need to adjust. Here, the IMT created made sure the intervention was effective by including such a set of steps in the suggested adjustments to the company's operations.

Over the course of a year, fifty randomly chosen regional very small enterprises (VSEs) were subjected to the IMT model in this investigation. Time constraints meant that performance metrics were not used to assess outcomes; instead, the proportion of activities that were really executed by each organization was considered. This review does not capture the whole scope of the IMT technique's influence on the business at this stage, but it does capture the general vibe, outlook, and results the approach has had thus far. The IMT approach is most effective when used five years after the first implementation in order to reliably assess outcomes such as cost savings, new product performance, management style changes, etc. We were unable to conduct such an assessment for this project. The data from all 50 pilot applications allowed us to draw important conclusions about the efficiency and usefulness of the IMT approach that was created. In order to determine how the IMT impacted the development and advancement of the very small enterprises (VSEs), and to finalize the approach for widespread usage and implementation by all very small enterprises (VSEs) and other areas, these results are thoroughly examined.

- **Proposed methodology**

The five stages and procedures that make up the IMT technique that was created for VSEs are outlined in this paragraph:

Phase 1: education on IMTs and their dissemination

On a regional level, the following initiatives were launched to encourage innovation, its applications, and advantages, along with IMTs, among the region's businesses:

1. A pamphlet titled "Innovation Management Techniques" was handed out to three thousand VSEs. The brochure provided concise information on IMT techniques, the proposed IMT, its applications, and advantages.

2. Workshop on "innovation management techniques" held in each of the four major cities in the area. Session topics included:

    - How the innovation process and approach impact the contemporary

knowledge-driven global economy

- How IMTs are used to effectively incorporate innovation into enterprises
- The recommended IMT technique for VSEs.

The lectures held at the regional level drew almost 500 attendees. Among them were 300 local business owners and managers.

Phase 2: choice of the taking part businesses

Fifty businesses were chosen for the IMT pilot program out of three hundred that attended the workshops. The entrepreneurs and managers who took part in the selection process had their answers evaluated using a tailored questionnaire. In addition to evaluating the entrepreneur's capability for creativity, improvement, and new ideas, the questionnaire also evaluated each company's capacity, background, and potential. In order to choose which very small enterprises (VSEs) to include, the following 10 factors were considered:

1. The economic activity and its share of the regional GDP.
2. Stability and growth among regional businesses operating in the same industry.
3. Managing and financial status of the business.
4. Employability and growth opportunities for highly educated and skilled workers inside the organization.
5. The company's potential for expansion outside the local area.
6. The entrepreneur's own history, education, and expertise.
7. Possibility of creating new goods and enhancing current procedures.
8. Company size as measured by revenue, net profit, headcount, etc.
9. There is a chance that local businesses might work together via clustering.
10. How the industry is doing on a global and national scale.

The ten criteria mentioned above were used to select 50 companies. These criteria were derived from a thorough analysis of regional characteristics, including demographics, isolation, available technologies, research capacities, and entrepreneurial traits. Additionally, they were considered in relation to the key factors for potential regional progress and development. So, the chosen criteria laid out a procedure that ultimately led to fifty local businesses with enormous innovation and growth potential, giving them the chance to make substantial contributions to the growth and employment of the area.

Companies were chosen from a wide range of important regional economic sectors. Companies in the primary sector were not included since their business operations differed from those in the other sectors. Table displays the distribution of the 50 enterprises across several fields of operation.

Table 1: Participating area businesses in the IMT pilot program in relation to industry

Sectors of activity	No. of companies*	Percentage
Secondary sectors	15	30%
Cooperative businesses that make traditional sweets	3	6%
Manufacturing of conventional items	7	14%
Making milk and other dairy products	4	8%
Manufacturing of building supplies	1	2%
Trading sectors	21	42%
Trade in food products	5	10%
Exchange of building materials	4	8%
Automobile dealerships	3	6%
Multiple forms of trade	9	18%
Tertiary sectors	14	28%
Communal financial institution	1	2%
Hotels	7	14%
Food delivery	3	6%
Advice giving	1	2%
Publishing assistance	2	4%

Note: *Total of 50 participating companies.

firms in the manufacturing sector were categorized as follows: cooperatives making traditional sweats (6% of the total), businesses making traditional regional products (14% of the total), dairy firms making traditional regional products (8% of the total), and lastly, goods made for building (2% of the total). Ten percent of the trading enterprises belonged to the food industry, eight percent to the construction sector, six percent to the automobile trade sector, and the remaining eighteen percent to other industries.

Table 2: Regional businesses who took part in the IMT pilot program in relation to headcount

Number of employees in the companies	No. of companies	Percentage
Very small companies		
1–3	5	10%
3–6	20	40%
6–10	24	48%
Small company		
10–20	1	2%

When all firms' workers were divided by all companies' employees, the average number of employees was 5.5. Since this figure indicates the average VSE, it was thought to be sufficient for implementing the planned IMT.

Phase 3: evaluation of the current innovative capabilities and requirements of every business

During the initial visit to each firm, a seasoned consultant would execute this part of the IMT. While on the trip:

- The company's day-to-day operations were thoroughly examined.
- Key staff and the owner were questioned.
- Data from the primary firm was gathered.
- The issues, challenges, and blunders were documented.
- We looked at the local market for that industry.

The data that was gathered was derived from internal business sources.

Phase 4: strategy outlining potential novel steps for every business

Innovation, as a framework for managing information, is the visible process by which a business creates and uses new knowledge. Based on this, a comprehensive strategy to innovation management has been developed, which has resulted in a set of recommendations for each organization involved. Two sets of plans were developed for each organization based on the results of the SWOT analysis, worldwide experience, and know-how. One set was for the near term, covering the next year, and the other was for the far off future, covering the next three years. A set of specific steps, with an average of 10 steps per business, made up each sub-plan. Budget, personnel resources, and implementation time were all specified for each activity. The bulk of the participating firms were family-type businesses, which was considered while developing the recommended plans for each company.

Phase 5: putting each company's plans into action and monitoring their progress

Key to the success of the suggested technique was the execution of the IMT action plan by each of the 50 participating firms, together with follow-up and assistance throughout the first year of implementation. In addition to the suggested creative acts, it provided a chance to measure the method's performance by looking at the reaction, feedback, and the effect of the IMT on the growth and development of each organization. This section also embodies the worth and scientific contribution of the present work. Every company's IMT action plan execution was supported for one year via monthly telephone interactions.

RESULTS AND DISCUSSION

- **Analysis of the audits**

Based on the innovative capability of each firm as recorded during the diagnostic phase of each IMT and the responsiveness of each company to innovation as measured by the execution of the prescribed actions by each IMT, this research draws its conclusions.

Table 3: Key discoveries on the origins of the businesses and their founders

Main characteristics	No. of companies*	Percentage
Companies run by individuals with advanced degrees	5	10%
Entrepreneurs working in the same field who are members of the same business family	15	30%
Company owners with expertise in various industries	20	40%
Business owners with backgrounds in the corporate world	11	22%
Company owners with formal education in areas like financial management, marketing strategy, business planning, etc.	2	4%
Entrepreneurs that are consistently enrolled in various forms of business education	13	26%
Business owners who keep tabs on developments in their field on a global scale and who are alert to shifts, innovations, and advancements	10	20%
Eight entrepreneurs who run and grow their companies with a clear strategy for the next three years	10	20%
Female-led businesses	5	10%
Businesses that have been around for less than five years	16	32%
Businesses having a duration of five to 10 years	18	36%
Companies that have been in operation for over 10 years	16	32%
Businesses run by the relatives of the business owner	16	32%
Businesses whose owners and managers work together	6	12%
Businesses that are involved in collaborative ventures	14	28%
% of businesses engage in more than one primary function	0	0%
Businesses that have moved their operations to a larger, more modern facility at least once in the last five years	3	6%

Note: *Total of 50 participating companies.

Each of the participating entrepreneurs fits the description of an exceptionally gifted individual who, having founded the firm himself, is completely committed to his job, and runs the show with nothing more than his wits and a head full of experience. A key factor in the effective execution of the IMTs was

his passion for and dedication to his profession, as well as his belief in the company's potential for growth. It was easy to communicate and impart new ideas, technology, and know-how to the entrepreneurs, even though only 10% of them had a bachelor's degree. The same held true for grasping the novel concepts and technological advancements. Thirty percent of the entrepreneurs were either employees or had prior experience working for another company; forty percent were entrepreneurs themselves, and twenty-two percent had worked for other firms. They were able to use their prior knowledge to their advantage in their current company endeavor. Attendees of training programs (26%), business management programs (4%), or international business events (20%) were shown to have a stronger grasp of current entrepreneurial issues and, by extension, the IMT process. The key barrier to innovation adaption was the absence of prior operations based on a well-formulated business strategy, which was true for the vast majority of entrepreneurs (80%). A well-structured business plan was an integral part of the proposed IMT in the majority of instances, and extra measures were made to emphasize its significance and need for company growth.

The participating VSEs were virtually evenly split between the three major categories based on the number of years in business: those with fewer than five years, those with five to 10 years, and those with more than ten years. The IMT performance findings showed that the firms' innovation ability was unaffected by their years in operation. Workers at businesses with less than five years under their belts were, owing to their youthful zeal and will to succeed, more motivated to adopt and implement the suggested changes than their more seasoned counterparts. Moreover, when comparing businesses with male and female entrepreneurs, there was no discernible difference in the attitude or characteristics toward innovation in the 10% of firms that included female entrepreneurs. The potential to innovate was negatively affected when another family member was involved in the management, which happened to 32% of the VSEs that took part. Disagreements arose in this instance about innovation because the two family members had different management perspectives and attitudes. Twelve percent of the VSEs that took part in the study reported the same problems when their company's management was cooperative. The ability to innovate was higher in the businesses that were used to change, such as the 6% of enterprises that were able to move operations to more modern, new divisions. Every single company that took part in the study focused on a specific industry.

Table 4: Important conclusions about the businesses' operations and the goods and services they provide

Main characteristics	No. of companies	Percentage
Businesses that release new goods or services every two years (exclusion: trade firms)	10 out of 29	34.5%
Businesses whose management is modern and efficient	5 out of 50	10%
Organizations in which managers delegate tasks to their subordinates (when possible	10 out 37	27%
Those four businesses are at the forefront of innovative use of information and communication technology.	15 out of 50	30%
Businesses that have sufficient expertise in their field	20 out of 50	40%
Successful businesses in the field of knowledge management	15 out of 50	30%
Businesses whose output has grown in the last three years	15 out of 50	30%

The technique and criteria used to assess the businesses' operations and products/services are derived on criteria established in an earlier study (Ettlie and Rubenstein 1987) and a more recent application of these criteria to the entrepreneurial climate in India. Only 10 businesses operating in the tertiary and secondary sectors have introduced brand-new goods or services in the last two years, accounting for 34.5% of all businesses. Only 27% of the organizations with a sufficient number of workers were really delegating tasks to them. Prior to the planned IMT application, only 10% of the enterprises have contemporary, effective management that was up-to-date according to international standards. Only 30% of businesses really made advantage of modern technology, the internet, and other forms of information and communication technology. Before the adoption of IMT, only around 40% of the enterprises had sufficient information about the happenings, developments, and advancements in their industry, mostly on an Indian national level and, secondly, on a worldwide one. But just 30% of the businesses were determined to have good knowledge management. Lastly, 30% of the organizations also saw a rise in their productivity year over year. Incorporating the suggested IMTs into this section significantly enhances the recorded performances. Forty percent of businesses reported utilizing an in-house accountant and appropriate software for financial management.

Table 5: The most important results concerning the firms' finances

Main characteristics	No of companies*	Percentage
1 Businesses that have modernized their financial management strategies	20	40%
Businesses in the previous three years have managed to reduce their operating expenses.	10	20%
Businesses whose financial management and control are in place but are ineffective	12	24%
Businesses that have been successful during the last three years	35	70%
Businesses whose revenue has grown during the previous three years	10	20%
Businesses that have posted cumulative losses during the last three years	5	10%
Businesses whose product or service prices are well-managed and under control	20	40%
Businesses that have reduced their operational expenses during the last three years	10	20%

Note: *Total of 50 participating companies.

These businesses also had a well-managed pricing strategy for the goods and services they provided. Twenty percent of these businesses were able to reduce their operating cost percentage within the last three years. With the correct technologies in place, this data shows how critical proper financial management is for any business today. Regrettably, due to abuse, 24 percent of businesses using financial management software were not making enough use of it. What this means is that having the right knowledge to utilize new technology is crucial. Seventy percent of the companies that took part in the study reported making money during the last three years, indicating that most of them were running successful, long-term businesses. Twenty percent of these businesses really seen a significant uptick in sales over the last three years. Over the last three years, only 10% of the participating enterprises experienced substantial losses. The primary goal of the IMT application in these firms was to reverse the losses and start making money within the next three years. It was mostly due to incompetence in management and unfamiliarity with the items' target market that the losses occurred. In each IMT application, the results about the company's suppliers and customers, as well as the innovation audit, are based on the expert consultant's biased judgment.

Table 6: Main findings on the customers and suppliers of the companies

Characteristics	No. of companies*	Percentage
Businesses whose clientele extends outside the operational region	20	40%
Manufacturing firms whose clientele extends outside the operational region	12 out of 15	80%
Businesses whose clientele is both varied and well defined	25	50%
Businesses that have a clear and extensive supplier database	25	50%
Businesses whose customer service representatives excel in getting the word out	15	30%
Businesses using customer relationship management (CRM) software	2	4%
Businesses use modern technology to communicate with their suppliers and consumers	20	40%
Businesses that use advertising, promotions, and other marketing tactics to bring in new clients	30	60%
Businesses target certain demographics with tailored policies and methods.	10	20%
Businesses that have established protocols and contracts with their vendors	15	30%

Note: *Total of 50 participating companies.

Sixty percent of the participating businesses sell only inside the region where they are based. The reason for this is that most businesses in the area are trading enterprises that bring items into the region instead of selling them. Eighty percent of the manufacturing firms ship their wares to countries outside of the region.

Nevertheless, the majority of them lack a robust customer network outside the regional zone. Consequently, even if traditional Aegean items are becoming more popular with national buyers, most of them still sell most of their products into the Chhattisgarh area instead. Only half of the organizations had a well defined client database that was maintained and monitored by management on a regular basis. The same businesses have comparable lists of vendors from whom they purchase supplies and finished products. Having said that, only 30% of businesses reported having enough, efficient contact with their clients. Regrettably, previous to the implementation of IMT, only 4% of these businesses had a customer relationship management (CRM) platform in place to effectively monitor and follow up with clients and sales. Results showed that 40% of businesses are using new tech to communicate with their suppliers and consumers. In order to promote and sell their goods, most of the firms (60%) were using fundamental marketing and sales methods including advertising, promotions, special offers, etc. Twenty percent of the businesses, however, were making good use of these resources as part of a predetermined marketing strategy. Companies having specific rules and agreements in place with their most important suppliers had a little higher rate, at 30%. The majority of companies, according to this aspect of innovation capacity, tend to operate internally rather than with an outward focus that would help them better understand the market, customers, and suppliers. This would allow them to collaborate with these groups more effectively and accurately. After implementing IMT, this mindset shifted in the majority of the firms. This section, titled "Competition and sector of activity at the regional market of each company," revealed the most disheartening findings about the firm's innovation ability.

Table 7: Results focusing on the regional market rivalry between the firms

Main characteristics	No of companies*	Percentage
Businesses well-versed in the local market	10	20%
Businesses familiar with regional market rivals	10	20%
Businesses well-versed in the past, present, and future of the area market	10	20%
Businesses that are keeping a careful eye on their area market rivals' every move and transaction	5	10%
Companies taking specific business measures to counter rivals	5	10%
Businesses that collect data on web marketing for use in domestic or international marketplaces	5	10%

Note: *Total of 50 participating companies.

When asked about their familiarity with the local market, only 20% of the businesses gave a satisfactory response. These same businesses accounted for 20% of the sample that had a solid grasp of their regional rivals. The same 20% of businesses could see into the past and forecast the future of the market. Of these businesses, just 10% were keeping a close eye on their rivals' market maneuvers, such as customer-facing promotions, product acquisitions and sales, partnerships, joint ventures, and other similar activities. The same 10% of businesses were also taking measures to combat regional competition by, for example, offering discounts to clients or limiting the growth of rival businesses. These same businesses were also the

ones scouring the web for data on similar international and national markets so they could get a feel for global trends. An extensive collection of measures comprising about 30% of all IMTs aims to enhance comprehension of the market(s), the competitors, and the anticipated possibilities and risks that have emerged inside.

- **Proposed actions**

We developed the list of recommended creative measures after conducting SWOT analyses of all participating companies. Each SWOT analysis relied on the information from the preceding sections to draw its primary conclusions about the innovation capability. For most business owners, business plan (BP) has always been the go-to document when applying for a loan or government incentives to expand their company. Nonetheless, most businesses' goals, visions, and futures were not impacted by the absence of business plan (BP). Almost half of the businesses really had a future strategy and vision in place before using IMT. Here are the most important types of new therapies that have been suggested:

1. Business planning

The above findings informed the first recommendation for most IMTs, which was to establish and monitor a three-year business plan (BP) beginning in the first year of IMT implementation. First and foremost, the IMTs trained the business owners and their employees to build and operate their business plan (BP)s. Incorporating the remaining creative measures suggested by each firm into the business plan (BP)s, they would be put into effect either in the first year or all the way through the three-year timeframe. Each business plan (BP) set out to accomplish a number of significant goals over the course of three years, including increasing gross sales, decreasing net profit, and cutting operating costs. Along the way, they hoped to build a reputation for excellence and provide recognition to their staff. Along with the remainder of the IMT application, the company as a whole also grew and developed.

2. Managerial and organisational changes

The second big problem was that there wasn't any sophisticated management. The informal, more horizontal management techniques advocated and established by the IMT proved to be very successful in the extremely tiny enterprises because of their size. Positive effects on radical innovation and a dramatic shift in cooperative management were both brought about by the 10% to 15% IMT activities suggested in this section. As an example, the new product creation that prioritizes innovation, as opposed to defensive tactics that prioritize imitation, was actively promoted by the planned entrepreneurial managements and financial administrations. Indeed, the 'new style' of management consciously decided to devote resources to radical innovation. Also, in order to facilitate various forms of innovation, substantial adjustments were suggested and implemented to organizational structures. The goal was to shift from reactive, copycat inventions to more proactive, innovative, and growth-oriented approaches. These adjustments were made with the goal of making the product or service as efficient as possible in terms of both production cost and delivery time to clients.

3. Marketing plan

Thirdly, most businesses struggle with an absence of outward-looking expertise, which manifests itself in a variety of ways (e.g., insufficient benchmarking, unclear market scope, marketing innovations, technology watch, etc.). For the remaining 10% to 15% of each IMT application's recommended activities, a marketing strategy including a significant collection of recommendations was also found in this direction. Because these were steps to be taken beyond the immediate one-year steps, they were included into the three-year plan.

4. New products and services

In terms of innovation's negative effects, the creation of new items ranked fourth. The likelihood of innovation, particularly with regard to product innovation, was unaffected by changes in the firm's marketing ideas or tactics. It was in this vein that a series of measures aimed at improving the product's visual appeal—by 10% to 15%—were first recommended. The goal was to get companies to focus on their whole product line, not just the "superficial" adjustments that don't matter much to them but do impact how consumers perceive the value and cost of each product.

5. Use of new technologies

The majority of businesses also failed miserably in making good use of modern technology, which includes things like the internet, Skype, teleconferences, a plethora of software, customer relationship management, information and communication technology, etc. Implementing new technology across all levels of an organization's operations was a key component of every IMT that was put up. Twenty percent to a quarter of each business's planned creative initiatives make use of already available new technology.

6. Collaboration with other companies and external expertise

Neither the company growth nor the necessary technical know-how were areas in which most of the very tiny enterprises had prior expertise using external support. All of the businesses had a severe dearth of reported external linkages with other businesses, consultants, business offering centers, and, most importantly, academic and research organizations. Entrepreneurs did not prioritize understanding business to business (B2B) concepts.

This part of the process innovation led to the proposal and implementation of a number of IMT activities, ranging from 10% to 15%.

7. Use of educated human resources

It was noted that several companies lacked competent and qualified employees. This was related to the fact that the current workforce lacked the necessary education. The majority of the recommended IMTs included measures to improve the recruitment and use of high school graduates in managerial roles. “Indeed, the many disciplines needed, including environmental studies, accounting, business management, etc., were sourced from the regional university of Chhattisgarh.

8. Use of innovation incentives

Participating companies have never previously taken use of the innovation subsidies provided by the Indian government to small and medium-sized enterprises (SMEs). The general public assumed that only larger, more developed businesses could qualify for such deals. For the sake of the firm's use of these incentives, a list of activities was included with each suggested IMT wherever possible. Our findings provide empirical support for the hypothesis that government subsidies significantly boost business innovation. Regrettably, the innovation subsidies are insufficient to allow a company to engage heavily in innovative initiatives.

9. Development of R&D capacity

Firms of this size simply cannot afford to maintain in-house research and development teams. The collaboration of specialised research units, such as a department at the regional University of Chhattisgarh, made the creation of R&D capability possible in several cases. This kind of teamwork was one of many IMTs suggested to the relevant industrial companies.

- **Reaction to suggestions for action**

Table displays the results for each VSE for each suggested category of innovative intervention.

Table 8: The outcomes of the IMT implementation, as determined by the VSEs' reactions to the suggested measures

Main categories of innovative interventions (in each company)	No. of companies adapting proposed actions*	%
Business planning	38 out of 40	95%
Managerial and organisational changes	45 out of 50	90%
Marketing plan	35 out of 50	70%
New products and services	45 out of 50	90%
Use of new technologies	40 out of 50	80%
Networking	40 out of 50	80%
Educated human resources	30 out of 45	66%
Use of innovation incentives	5 out of 7	71%
Development of R&D capacity	5 out of 5	100%

Notes: *Total of 50 companies.

Fifty organizations were surveyed; 38 of them (or 95% of the total) gave a favorable response when asked about potential business planning initiatives. Two of the forty-plus businesses are among the five that have posted cumulative losses over the last three years, according to Table (item 6). Table shows that these businesses paid little attention to the IMT intervention (item 6). According to item 8 in table 4, eleven of the fifty firms really had such a strategy before the IMT. All 45 organizations were advised to make managerial and organizational changes, and 90% of those companies accepted the recommendations. The reason for this is because not all of the business plan (BP)-affiliated enterprises found the recommendations to be applicable to their specific situations.

Of the total number of organizations surveyed, 35 answered favorably, accounting for 70% of the total. Since these adjustments necessitated reorganizing the internal organization's structure before they could be implemented, they were not adjusted in time, which is why the response rate is so low at 70%.” According to the description given above, 45 out of the 50 enterprises (or 90%) implemented the activities suggested for new goods and services. Businesses were eager to make changes to their products and services as the need for doing so became increasingly apparent.

Actually, forty of the fifty businesses (or 80%) did what was asked of them in regards to implementing new technology. Forty of the firms surveyed had a favorable response rate of 80% when asked about the steps that might be taken to foster networking and cooperation. Two of the ten businesses that failed to adopt the measures for new technology and cooperation were those that totally disregarded the IMT package due to financial issues. The other eight were included in the group of businesses that were required to execute the first major internal restructuring reforms. Out of 45 businesses approached, only 30 (or 66% of the total) gave a favorable response to suggestions on how to make better use of the highly educated workers they had recruited. Regrettably, the entrepreneurs' incompetence caused them to mistrust their staff and fail to adequately divide up tasks, which in turn led to a low proportion of favorable replies. The pilot program's biggest flaw is that it makes the VSEs' human resources less effective, which makes it harder to introduce new ideas and adjustments. Although just seven VSEs had the capability to do so, five of them responded positively (71%).

Table 9: Findings from the first year of implementing IMT

Main results	No of companies*	Percentage
Businesses that got right to work and finished their first year's worth of initiatives on schedule	10	20%
Businesses who got their start-ups off the ground later than expected yet finished their checklist by year's end	20	40%
Businesses that, at the conclusion of the first year, have implemented some of the measures outlined	10	20%
Businesses that did not carry out all of the recommended measures	5	10%
The five companies that began putting the plan into motion at the year's conclusion	3	6%
Businesses who disregarded the action plan that the IMT had recommended	2	4%

Notes: *Total of 50 companies.

The outcomes of each firm's IMT application were evaluated throughout the first year of deployment. The consultant visited each company twice to gauge the results. The results of this follow-up procedure demonstrated that the first six months were insufficient to put the measures into motion. The whole process of activities to be undertaken was accelerated during this time period by the help of the IMT consulting unit, which was communicated via monthly telephone calls. Most businesses started putting the IMT's recommendations into action in earnest during the second part of the year. Twenty percent of the firms who began using IMT immediately had a business plan (BP) in place before the intervention (20%). It was simple to include the activities into the current business plan (BP) in this instance. In order to execute the suggested business plan (BP), 20 out of the 40 remaining firms had to reorganize their internal structures, which delayed the start of the IMT implementation process for these organizations (item 2). Ten of the remaining twenty enterprises, or 20%, were unable to finish the one-year activities on time due to the extra delay created by the necessary internal change (item 3). They did do the tasks, although it took six to twelve months. Eighty percent of the participating firms managed to finish the first year's activities, even if there was a slight delay. Sixty percent of these businesses got the ball rolling on the IMTs immediately or with a little delay, but they nevertheless finished all of the first-year tasks on schedule. Ten percent of the other businesses opted to execute some but not all of the first-year initiatives, which were all finished on schedule (item 4). They said that not every activity was beneficial for them in that particular moment and location. While these businesses had more promise and were more dynamic than average, they lacked the vision and strategic planning necessary to ensure their future success. Item 5 shows that the remaining 6% of enterprises had a significant delay in implementing IMT. Over the course of that year, the consultant went out of their way to ensure that they progressed with the implementation on schedule. They were businesses that had serious management and structural issues on the inside that made it difficult to implement change or new ideas. These were the businesses whose first-year business plan (BP) implementation was just getting underway. At the conclusion of the first year, after significant efforts, these corporations did begin to adjust certain behaviors. Lastly, despite their original commitment and agreement, two out of fifty VSEs (fourths of the total) did nothing and disregarded the whole IMT pilot application. Both of these businesses also turned down business plan (BP)'s offer. The planned IMT was meant to help them better their financial status, but they were in such a horrible place that they didn't want to modify or adjust anything; they didn't trust in their own ability to survive and flourish.

CONCLUSIONS

Because of this, the information is an integral aspect of the innovation process according to the established IMT approach for VSEs. One way that knowledge contributes to innovation is by lowering transaction costs, making better use of current resources, discovering new R&D sectors, and paving the road for enterprises to expand internationally from regional legal entities. Management changes such as managing human capabilities strategically, networking with partners, creating adaptive and interactive organizational structures, balancing process efficiency versus destructive innovation, balancing individual versus corporate motivation, etc., are necessary because the proposed innovation management requires a fundamental shift in the company's strategic perception compared to traditional mechanistic command and control management. "Knowledge management practices for innovation" are defined by the proposed IMT methodology as the "observable routines involved directly in the development and application of knowledge." This definition is closely related to knowledge management. A new way of thinking underpins the proposed IMT, which states that innovation is more often than not the result of companies' abilities to use information to enhance both their internal operations and their connections with external players, rather than technology per se. This study proved that VSEs in less established corporate environments have structural features that make innovation and modifications more difficult. What these companies really need is innovation on a local level. Companies that had a business plan (BP) in place before the IMT intervention might go ahead and execute the IMT's recommendations more quickly. Another finding of the research is that innovation can only be successfully implemented in VSE as part of a larger company strategy. Following initial adjustments to the planned business plan (BP), the participating firms proceeded to make more modifications.

REFERENCES

1. Ahuja, G. (2020) Collaboration networks, structural holes, and innovation: a longitudinal study. Administrative Science

Quarterly, 45, 3, 425-455.

2. Bell, D. (2018) The Comings of Post Industrial Society. London: Heineman.

3. Bullinger, H.J., Auernhammer, K. and Gomeringer, A. (2017) Managing innovation networks in the knowledge-driven economy. International Journal of Product Research, 42, 17, 3337-3353.

4. Chesbrough, H.W. (2019) The era of open innovation. MIT Sloan Management Review, 44, 3, 35-41.

5. Clark, C. (2020) The Conditions of Economic Progress. New York: McMillan.

6. James, W.M. (2022) Best HR practices for today's innovation management. Research Technology Management, 45, 1, 57-60.

7. Kipping, M. and Engwall, L. (2022) Management Consulting. Emergence and Dynamics of a Knowledge Industry. UK: Oxford University Press.

8. Kline, S.J. and Rosenberg, N. (2017) An Overview of Innovation. In Landau, R. and Rosenberg, N. (eds.), The Positive Sum Strategy. Harnessing Technology for Economic Growth. Washington, DC: National Academy Press, pp. 275-306.

9. Machlup, F. (2021) The Production and Distribution of Knowledge in the United States, Princeton University Press.

10. Oslo, Manual (2017) The Measurement of Scientific and Technological Activities. Proposed Guidelines for Collecting and Interpreting Technological Innovation Data, Paris: OECD.

11. Phaal, R., Farrukh, C.I.P. and Probert, D.R. (2016) Technology management tools: concept, development and application. Technovation, 26, 336-344.

12. Schlegelmilch, B.B., Diamantopoulos, A. and Kreuz, P. (2017) Strategic innovation: the construct, its drivers and its strategic outcomes. Journal of Strategic Marketing, 11, 2, 117-132.

13. Ram, S. (2020) Validation of expert systems for innovation management: issues, methodology and empirical assessment. Journal of Product Innovation Management, 13, 53-68.

14. Utterback, J.M. (2018) Mastering the Dynamics of Innovation. How Companies can Seize Opportunities in the Face of Technological Change. Boston, MA: Harvard Business School Press.

15. Von Hippel, E. (2019) The Sources of Innovation. Oxford: Oxford University Press

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