PATENTS

S.no	TITLE OF INVENTION /Patent	INVENTOR(S) Name of the Asst Professors
1	Factors Affecting Dealers Performance To Evolve A Stratergy Monitoring And Control System	Dr.D.Adeppa
2	An Empirical Analysis Of Entrepreneurial Success In Strategic Human Capital Management In Smes	Dr.D.Adeppa Dr.N.AmberSingh Dr.G.Linganna
3	New And Innovative Business Models Have A Huge Effect On Increasing Stakeholder Involvement And Improving The Performance Of Organizations	Dr.N.Amber Singh Dr.G.Linganna
4	Implementation Of Artificial Neural Network Techniques For Detection And Classification Of Melanoma Skin Cancer Using Hybrid Texture Features	Sri.G.SrinivasReddy

PATENTS

Patent-I :Dr.D.Adeppa

TITLE OF INVENTION	FACTORS AFFECTING DEALERS PERFORMANCE TO EVOLVE A STRATERGY MONITORING AND CONTROL SYSTEM
FIELD OF INVENTION	COMPUTER SCIENCE

Office of the Controller General of Patents, Designs & Trade Marks
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Patent-II :   1.Dr.D.Adeppa

2.Dr.N.Amber Singh

3.Dr.G.Linganna

ITLE OF INVENTION	AN EMPIRICAL ANALYSIS OF ENTREPRENEURIAL SUCCESS IN STRATEGIC HUMAN CAPITAL MANAGEMENT IN SMES
FIELD OF INVENTION	COMPUTER SCIENCE

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TITLE OF INVENTION	NEW AND INNOVATIVE BUSINESS MODELS HAVE A HUGE EFFECT ON INCREASING STAKEHOLDER INVOLVEMENT AND IMPROVING THE PERFORMANCE OF ORGANIZATIONS
FIELD OF INVENTION	COMPUTER SCIENCE

ITLE OF INVENTION	IMPLEMENTATION OF ARTIFICIAL NEURAL NETWORK TECHNIQUES FOR DETECTION AND CLASSIFICATION OF MELANOMA SKIN CANCER USING HYBRID TEXTURE FEATURES
FIELD OF INVENTION	COMPUTER SCIENCE

Office of the Controller General of Patents, Designs & Trade Marks
Department of Industrial Policy & Promotion,
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Patent-I

FACTORS AFFECTING DEALERS PERFORMANCE TO EVOLVE A STRATERGY MONITORING AND CONTROL SYSTEM

FIELD OF THE INVENTION

This invention relates to the Stratergy Monitoring and Control System. The MCS supports collaboration among all members by concentrating on strategic priorities and fostering debates on performance evaluations.

BACKGROUND OF THE INVENTION

In a fast-changing technological, customer, and competitive environment, firms must renew to survive and grow. The current situation requires organisations to adopt new philosophies, methodologies, and procedures that allow for greater flexibility, adaptation, and modifications to meet market needs. Control and organisational learning are opposites. Combining these notions is sometimes required. Sustaining a competitive advantage demands adapting and innovating new products, services, and processes. To thrive, firms must support evolutionary advancements, detaching from established models and leaping to models that improve the business and differentiate it from competitors. Whoever sticks to an old, "plastered" model won't have the stamina to act in a market with a different model. Organizational Learning is a competitive advantage capability. The RBV of a firm's source of competitive advantages has been influential. Scenario setting forces companies to adapt to a changing reality. Organizational management involves complex operations, hazards, and environmental uncertainties that must be identified and monitored. Quantifying resources, directing activities, and adjusting the strategic management cycle aid with organisational control.

SUMMARY OF THE INVENTION

According to the findings of this invention , the combination of interactive use and diagnostic use appears to develop both internal and external learning capabilities. The MCS contributes to the process of information generation and dissemination and encourages collaboration among all members by focusing organisational attention on strategic priorities and stimulating dialogues on performance evaluations. In addition, the MCS focuses organisational attention on performance evaluations. These findings provide credence to the paradigm proposed , who views the MCS as something more substantial than a collection of mechanical tools designed to facilitate strategic execution. The controls are also significant vehicles that can be used to encourage and manage new initiatives in critical processes thatare looking for incremental improvements

BRIEF DESCRIPTION OF THE DRAWINGS
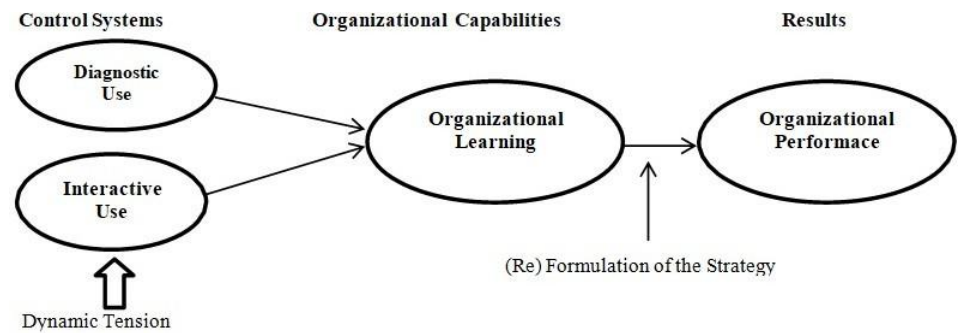
Fig.1 Depicts the theoretical Research Framework.
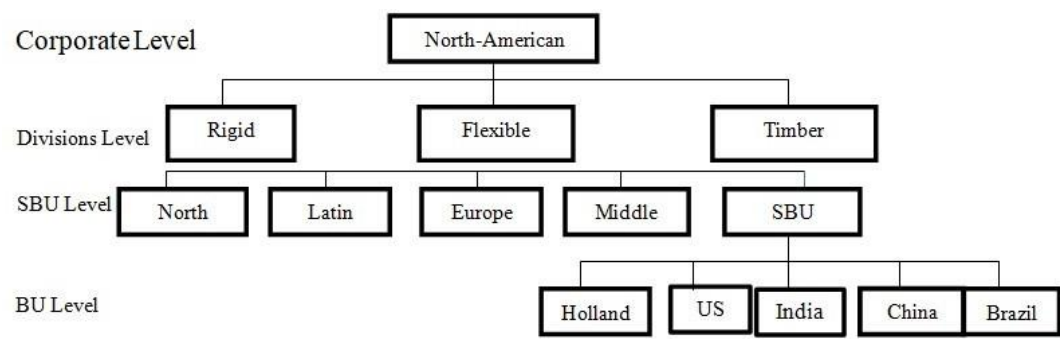
Fig.2 Depicts the Organizational Structure of the Corporation.

BRIEF DESCRIPTIONOF THE INVENTION

In a current organizational environment permeated by fast-changing technology, customers and competitors, the organizations need to continuously renew to survive and thrive. The current situation shows the need for companies to adopt new philosophies, techniques and processes that allow them for a greater effort to obtain flexibility, adaptation and necessary adjustments to cope with the demands of the companies' market segment. The notion of control has opposite characteristics to the idea of organizational learning. However, the combination of these disparate concepts is often necessary. The sustaining of the competitive advantage requires organizations to adapt and even to innovate in order to create new products, services and processes. To succeed, companies need to promote evolutionary improvements, detaching from traditional models, leaping towards models that bring improvements through changes to the business and differentiating it from competitors. Whoever continues in an old and "plastered" model, probably will not have endurance breath to act in a market with a completely different model from the traditional one The Organizational Learning is recognized as one of the major capabilities to achieve competitive advantage. The RBV of a firm concerning the source to obtain competitive advantages, has become an influential framework. There is scenario setting that forces companies to suit a new reality permeated by constant changes. The management of organizations becomes characterized by an environment of complex activities, subject to risks and various types of environmental uncertainty of which the company must identify and monitor. In organizational control, the quantification of resources, the direction of efforts and the continuous adjustment of the strategic management cycle are alternatives that help to make an assertive decision.

Despite considerable interest in the relationship between MCS and strategy, the literature of the MCS has devoted little attention to the RBV. This study seeks to expand the research concerning the influence of MCS in the strategy, under the application of the RBV. Some studies have reported the strategy for a level of capacity in terms of innovation, organizational learning, market orientation and entrepreneurship. In these concepts, the strategy is considered to be influenced by the MCS, considering it within a process perspective and its scope is expanded to the notion of incremental strategy. The MCS followa procedural and dynamic approach and the focus becomes strategic dialogues and interactions issues. Following the logic of RBV, the link between strategy and MCS can occur at a level of management capabilities. RBV is based on the principle that competitiveness is a function of force, exploitation of specialties and leveraging of specific sources and capabilities controlled by a company, so that such company creates sustainable competitive advantage. In this perspective, the MCS should be aligned with the skills to be effective and consistent with the strategic choices.

Companies need to be able to "reinvent" their strategy not only once a decade, but continuously and cyclically. As new information arises, managers need to "reset" the business strategy. With an intense and fierce competition revolving around the ability of the companies present to develop themselves in terms of adapting to new technologies in products and processes, the understanding of the dynamic adaptation is essential and it is strategic to the survival and the success of the companies. In this context, this article analyzes the MCS askey determinants that instigate the process of strategic incremental change through the capacity building, more specifically through organizational learning. From improvements in learning, the organization can achieve improvements in performance. The dealings of strategic controls rescue the importance of this theme. For the researcher, the MCS inform the need to initiate a possible process of strategic change, giving support and clarification for the change, adjusting and resizing the strategy. Following the researcher's work, several studies have examined the active role of MCS in the execution process and in the (re) formulation strategy process. The controls, , are used by top managers not only to traditionally formalize beliefs and establish limitations on what are acceptable strategic behaviors, but also how to define and measure critical performance variables and motivate debates and discussions on strategic uncertainties. The dynamic and interactive control systems are embedded in a process of organizational learning that can encourage the emergence of both emerging strategies and incremental strategies. This research focuses on analyzing and gaining, in this section, a better understanding, from the exposure of thoughts of many researchers on the problem of how MCS can help not only on the strategic execution, translating it, but also assisting the process of strategic renewal. This process can result in improved performance through the capacity building, exemplified by the organizational learning.

The main idea of RBV is that the source of sustainable competitive advantage is primarily found in the resources and capabilities of the company and only secondarily in the structure of industries. In some situations, the sustainability of competitive advantage is achieved by the "complexity" of the resource, that is, by incorporating the resource within a complex corporate network or by the collection and mechanisms of information processing that allow the incorporation of knowledge assets. The sustainability of competitive advantage is also achieved through the development of unique and strategic capabilities. Resources are defined as all assets, capabilities, information, knowledge and processes that help the organization to increase its effectiveness and efficiency. Resources can be classified as physical, financial, human or organizational. Resources that are valuable, rare, non-imitable and non- substitutable lead to the achievement of sustainable competitive advantages that cannot be easily replicated by competitors. Capabilities are defined as organizational processes where firms synthesize and acquire knowledge resources and generate new applications from these resources. Internal learning through knowledge by training, and external learning, acquired through market orientation, are recognized as the major capabilities to achieve advantages and create changes within the organization. Each of these two learning is appropriate to provide forces, however this is not enough to develop sustainable advantages. Only when in collectively way, along with other capabilities, they can help the firm to be competitive. Although there are others capabilities, this paper is restricted to internal and external learning, in order to analyze organizational capabilities. The competences used to perform activities are important for the survival and growth of the company. Organizational learning refers to the development of insights, knowledge and associations with past effective actions that can guide future actions. Learning is seen as an important enabler for competitive advantage by improving information processing activities of a company that is faster than its competitors.

This learning can be understood as the ability of an organization to monitor changes in its environments and adjust its processes, goods and services to capitalize based on these changes.

The MCS and their Influences on Strategy Management Process:

Management accounting has evolved from a prescriptive and technical approach to empirically relate constructs with accounting fields from elsewhere in an attempt to understand how organizations obtain performance. There is a growing need to study if each company's way of using the MCS could help explain the achievement of the desired performance. The literature on management states the contribution and the need for control mechanisms. This statement has its main premise the following sentence: what is not measured nor evaluated, cannot be judged nor managed. If we cannot measure the performance of a process, for example, we cannot evaluate it and we cannot give an opinion on this process. The measurement mentioned is a direct inference to the controls. The control framework provides conditions to make information available. This provision will enable the development of the management process. The work emphasizes the controls on procedures and how these can generate results. This study focused on answering the following question: how do managers use MCS to develop and execute new business strategies in order to promote organizational change? In order to answer this question, the researcher suggests that the controls can not only be used to support the execution of the strategy, but also for its renewal. Controls are defined as formalized procedure systems that use information systems to maintain or alter patterns in organizational activity. MCS can inform the need to initiate a possible process of strategic change, adjusting and resizing the strategy. The MCS are operationalized through four systems that complement each other, they are: belief system - core values, boundary system - risks to be avoided, diagnostic system - critical performance variables, and interactive system - strategic uncertainties. Together these systems would bring formal ways to frame the controls carried out and highlighted in organizations. This classification of these MCS extends its concept which is replaced by a more proactive, dynamic and strategic function. To understand the theme of this paper, it is focused on the analysis of the diagnostic and interactive use of MCS approached, since it is from the intertwining of these uses that the strategic resizing process can be generated. Although these two MCS have been slightly studied in Brazil, internationally there are several empirical studies on these constructs, supporting the theoretical model developed.

Considering the research objectives aimed at: (i) knowing how the mechanisms of controls can influence the strategic management in a metallurgical business; (ii) describing the nature of the analytical categories under analysis represented in Figure 1, which is the theoretical and empirical model developed by the researchers to be tested and applied in the case study, this research is classified as descriptive. The developed research is qualitative of a unique case study. The nature and complexity of the theme, the level of depth that the study requires, the type of information and analysis necessary for the answers to the research questions contributed to the assumption of this perspective. There were two research questions investigated in this study: (i) to what extent does the use of MCS act in combination with the production of dynamic tension that contributes to create and maintain organizational

learning? (ii) to what extent does the use of MCS contribute to organizational performance by developing these learning? Due to the fact that the problematic presented in this research still has a lack of answers, the most appropriate research method is the case study. The case study is one of the most powerful methods of research and it aims to deepen the knowledge about a problem not sufficiently defined, targeting the stimulation of the understanding, suggestion hypotheses and questions or development of existing theories. Its use is recommended in many situations, for example, extending an existing theory aimed at deepening and aimed at validation of empirical results of previous research, allowing to see how generalizable the theory is and in which contexts it applies to. This is a suitable method for this paper, which aims to understand if the uses of MCS can lead to reach the desired performance through the development of organizational learning The analysis unit, which comprises the research are the processes of production and sales elected as critical of a metallurgical Strategic Business Unit - SBU, in a Brazilian subsidiary which is part of a North-American corporation. The case was studied in this subsidiary, since this company presents a typical case. There are prior information of the existence of certain practices regarding the formal MCS present in the critical processes of this company.

Data Collection Instruments:

The research was of documentary type. Through the analysis of these documentations provided by the company, it was evidenced the relationship of the MCS in the strategy. Records available in the software of the production process, QS - Quality Systems, and of the sales process, QON - Quality on Line and Sales Force, and Excel spreadsheets were also analyzed. These softwares and spreadsheets present a quantitative and qualitative portrait of the company in terms of monthly performance. The spreadsheets, which consolidate the data of performance evaluations of the production process, were fundamental to analyze what and where are the weaknesses and opportunities in terms of economies of scale at each stage of the production process. It is from the spreadsheet that is done further detailed analysis. Concerning primary data, semi-structured interviews were conducted with the application of a script to the top managers of the Brazilian subsidiary: controller, the manager of the production process, the manager of the sales process and the quality control director. Based on these interviews, information was obtained about the characteristics, relationships and implications of analytical categories schematized in Figure 1.

Data Analysis:

The interviews were conducted in order to allow the collection of data for further analysis around the categories: mechanisms of diagnostic use and interactive use of the controls and their influence on the critical processes under review; the influence of these mechanisms in generating internal and external learning and the influence of these learning, once developed by MCS, in the strategy reformulation process and in the performance. The "performance" category was measured and analyzed according to the customer satisfaction level. Secondary data were previously analyzed, "summarized" and framed in the interviews' script. The elaboration of this script was guided by the theoretical foundation and the objectives outlined in the introduction. For each analytical category, questions were made to characterize them,

understand them and describe them in the context of the metallurgical subsidiary in Brazil. The content analysis technique that consists of message analysis techniques through objective and systematic procedures, which can be qualitative or quantitative was used. Those procedures allow inference about the message content The responses of the semi-structured interviews were all recorded to be transcribed into text. Once transcribed, codifications of text fragments were made. These fragments, considered as relevant, were related in each analytical category and, therefore, related to the theory exposed. These fragments grouped in theirrespective categories were subsequently interpretedto construct the article report.

The relationship between diagnostic and interactive use, dynamic tension and performance appear to be indirect. The uses of MCS influence the capabilities that, in turn, influences in getting the desired and planned performance by the Budget. The complementarity of thesetwo uses of MCS may represent a capacity and a source of competitive advantage. The abilityto achieve a balance between two opposing uses of MCS that, simultaneously, stimulate incremental changes and aim to achieve planned objectives, may represent a valuable, distinctive and not imitable capacity . By placing the case study in RBV slope, the Brazil BU can be seen as a revenues of upper structure not because this factory engages in strategic investments and raising prices, but because it operates at a lower cost, offers higher quality, customization and performance to the product, since this company manages critical processes of excellence. Through the interactive use, the organization continuously analyzes what is in terms of threats or opportunities or strategic uncertainties in order to understand how they came about and how to deal with such uncertainties. Through the diagnostic use, this factory identifies its internal problems or deviations from expected performance and evaluates how to solve them in time.

This company found a competence that is distinct from its other competitors in the industry. This competence is developed from the MCS in the processes, which, in turn, supports and presses new information and learning. The MCS analyzed case instigates employees to learn internally and to be guided by a market orientation, approaching customers and their real needs. It is in the RBV perspective, involving acquisition and retention organizational learning and efficient management concerning the intangible assets, that lies the greatest potential for the strategy of this productive organization. The critical processes of Brazil BU have two main functions: coordination and integration between people - a static concept - and generation of learning- a dynamic concept. It was observed that the learning obtained through the results of performance measurements and evaluations of operations and through market analysis is seen as a process by which the repetition of initiatives and experimentation of new initiatives allows them to be performed in a more customized, efficient and economical way. Tight integration and interdependence was found between critical processes. The development of the external learning brings increases in the sales process, in the first instance, and in the production process, where the Brazilian subsidiary will produce exactly what the customer wants and needs. Finally, this learning leads to improvements in the controllership process - better performances in terms of customer satisfaction and, consequently, in terms of higher revenues.

It was found that the ideas in terms of best practices to operationalize largest economies, productivity and quality in production, generated monthly in the BDP discussions, also contributes, significantly, in the level of customer satisfaction and retention. The implications of the production process discussions adds value to the product that is perceived by customers, bringing sales improvements. From the relationship between processes, it is evident that both internal and external organizational learning are seen as investments that bring results, not costs to be minimized.

The controls can be analyzed by a multidimensional way, being tools that assist in maintenance practices, and also in adapting these practices, helping the company to identify problems, deviations and to internalize threats and opportunities, encouraging change. The paper also contributes to empirically analyze the dynamic tension and how these can stimulate new learnings which, in turn, cause changes renewing the strategic actions of the processes and impacting, positively, the performance. Thus, this study developed, tested and validated the theoretical framework, presented in Figure 1, in the Brazil BU reality. The contribution of this study to the management practice is on the issue of the management of seemingly conflicting purposes or dynamic tension, suggesting that this tension contributes to capacity development and to the achievement of planned performance. After the discussion of the findings in this study, it was found that part of the model was validated, enabling it to be studied in other Brazilian empirical researches in more depth. The analysis of results should take into account that the results are based on the perception of top managers of a case study. The results could be different if the participants of the interviews were from other processes, from other hierarchical levels or also to different sized companies. All information interpreted in this study is limited to the case studied entirely qualitative, not statistical and that does not allow generalizations without additional studies to be conducted in other organizational segments. For simplification purposes, the invention focused on examining only two critical processes of business. The other business processes and other variables that could interfere on the performance, and on the organizational learning, were not objects of this research.

PATENT-II
FACTORS AFFECTING DEALERS PERFORMANCE TO EVOLVE A STRATERGY MONITORING AND CONTROL SYSTEM

ABSTRACT

Through the Resource Based View (RBV), this invention examines the relationship between Management Control Systems (MCS) and organisational performance through organisational learning, which mediates this relationship. The invention examines how diagnostic and interactive controls in MCS affect learning. This invention analysed two key procedures for the company's competitiveness. It was a documentary-style study using semi-structured interviews with the subsidiary's top managers. The evidence suggests that the dynamic tension created by balancing MCS in learning and performance helps this subsidiary maintains its competitive advantage. The theoretical and empirical model developed has been tested and validated in this company's reality. The interactive use, with a connection to diagnostic use, fosters the development of learning, enabling organisational focus on strategic priorities, stimulating discussions, critical analysis, and improvements in critical processes.

CLAIMS

1. The RBV of a firm concerning the source to obtain competitive advantages, has become an influential framework. There is scenario setting that forces companies to suit a new reality permeated by constant changes.
2. The management of organizations becomes characterized by an environment of complex activities, subject to risks and various types of environmental uncertainty of which the company must identify and monitor.
3. Despite considerable interest in the relationship between MCS and strategy, the literature of the MCShas devoted little attention to the RBV.
4. The main idea of RBV is that the source of sustainable competitive advantage is primarily found in the resources and capabilities of the company and only secondarily in the structure of industries.
5. Management accounting has evolved from a prescriptive and technical approach to empirically relate constructs with accounting fields from elsewhere in an attempt to understand how organizations obtain performance.
6. The relationship between diagnostic and interactive use, dynamic tension and performance appear to be indirect. The uses of MCS influence the capabilities that, in turn, influences in getting the desired and planned performance by the Budget.
7. The controls can be analyzed by a multidimensional way, being tools that assist in maintenance practices, and also in adapting these practices, helping the company to identify problems, deviations and to internalize threats and opportunities, encouraging change.

<table>
<tr><td colspan="3" align="center">FORM 2

THE PATENTS ACT 1970

39 OF 1970

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THE PATENT RULES 2003

COMPLETE SPECIFICATION

(SEE sections 10 & rule 13)</td></tr>
</table>

1. TITLE OF THE INVENTION

AN EMPIRICAL ANALYSIS OF ENTREPRENEURIAL SUCCESS IN STRATEGIC HUMAN CAPITAL MANAGEMENT IN SMES

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2. PREAMBLE TO THE DESCRIPTION		

COMPLETE SPECIFICATION

The following specification particularly describes the invention and the manner in which it is to be performed

PATENT-II

AN EMPIRICAL ANALYSIS OF ENTREPRENEURIAL SUCCESS IN

STRATEGIC HUMAN CAPITAL MANAGEMENT IN SMES

ABSTRACT

Despite their limited resources, globalisation and rapid technological advancements have boosted the contribution of small and medium-sized businesses to economic growth and job creation. Small and medium-sized businesses (SMEs) must deploy intellectual capital in the form of human capital, structural capital, and relational capital in order to develop a knowledge economy and remain competitive in the present business environment. The economy and culture of Indonesia cannot grow without the support of its countless small and medium-sized businesses. People are encouraged to take risks and generate new ideas, and small and medium- sized businesses provide a significant amount of work (SMEs). Utilizing the opportunity strategy, small and medium-sized enterprises (SMEs) can dramatically expand their human capital and entrepreneurial capabilities. The researchers intended to understand how human resources and business skills impact the expansion of small and medium-sized businesses. In Central Java, Indonesia, a study of small and medium-sized enterprises was conducted. Utilizing a quantitative research technique, a questionnaire was used to collect information for this study. The gathered data were analysed statistically using SPSS. Human capital, entrepreneurial skills, and the success of small and medium-sized firms are found to have a strong relationship, according to the research (SMEs). Therefore, CEOs of medium and small businesses must invest time and effort in their education. This study's findings contribute to our knowledge of small and medium-sized enterprises (SMEs) and the idea of human capital. Some argue that strategic human resource management is even more important for smaller businesses than for bigger ones. Although it is understandable for smaller organisations to take a more relaxed approach to HRM, it is possible to increase productivity through rigorous HRM planning and the integration of business and HR initiatives. This article is a case study of a prosperous small business. This organisation use both formal and informal techniques to manage its human resources, and its business strategy and HR practises are well-aligned.
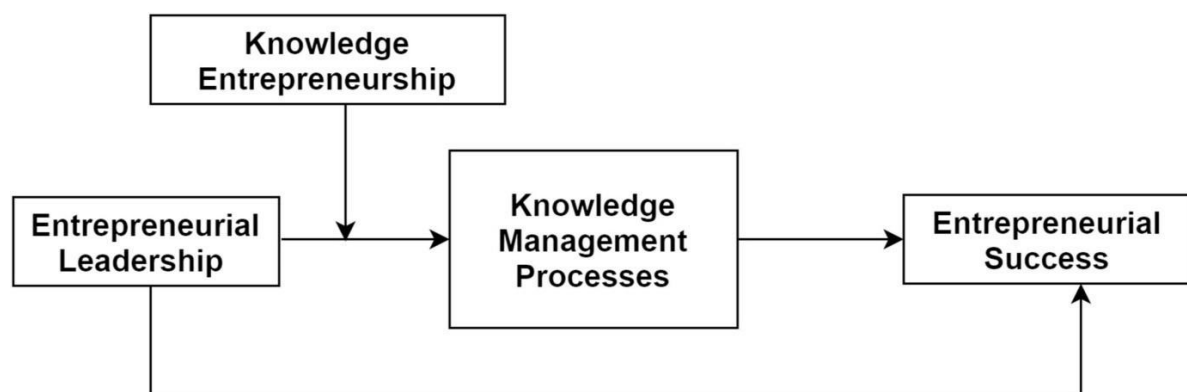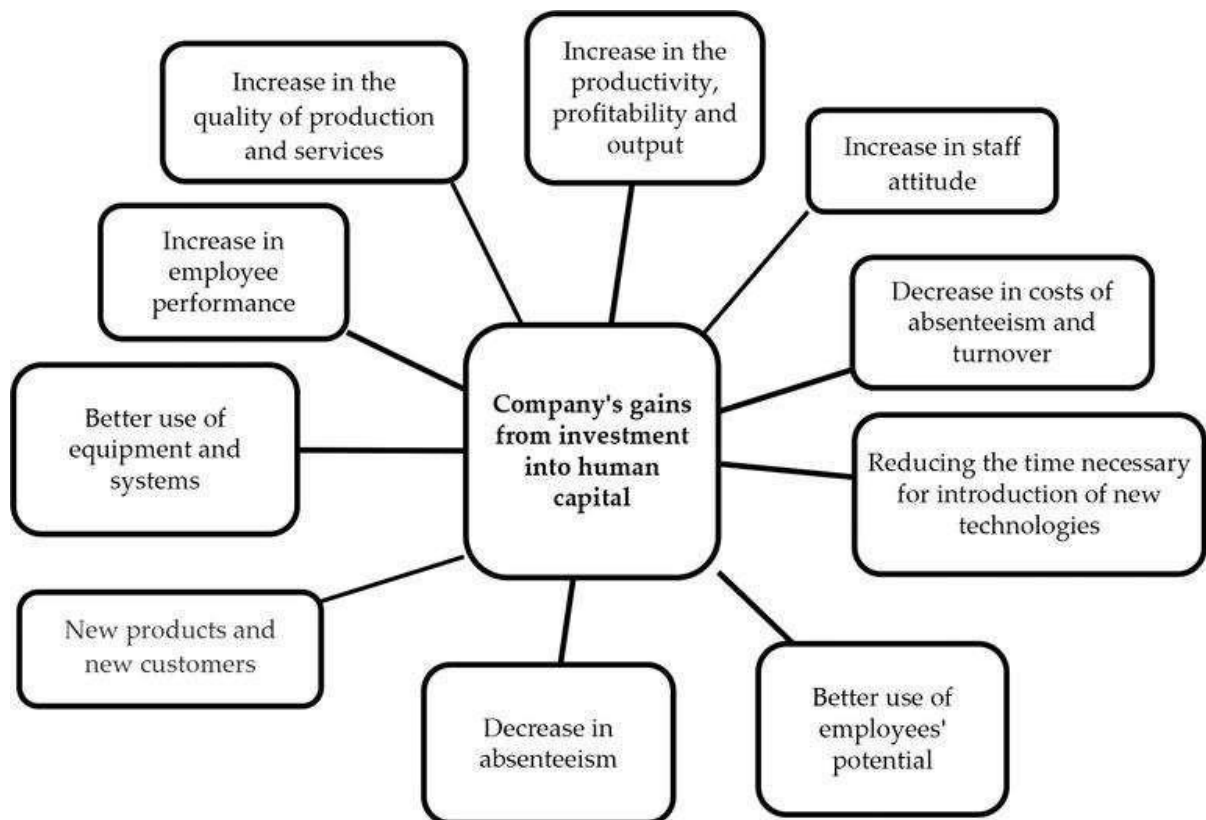
DESCRIPTIONS

The expansion of small and medium-sized businesses coincides with the decline of unemployment rates. This category of businesses can adjust quickly and effectively to shifting customer demands. Underutilization of resources can result in higher production costs, preventing the company from expanding and advancing in management, and in the worst-case scenario, leading to its demise. When capacity is not utilised to its fullest extent, production costs rise, giving small businesses a competitive advantage over large organisations. A second difficulty is that small and medium-sized businesses often focus on their domestic market and have limited opportunities to penetrate the international market. A lack of finances to handle issues such as personnel orientation and training, workplace learning facilitators and barriers, research and development, etc.is another widespread concern. Academics are particularly interested in three entrepreneurial success variables that are determined by the business actors themselves. Examples include human capital and good company governance. According to experts, having access to a large pool of human resources is an essential element of any successful business plan. It is likelythat the education and experience of business actors will yield key insightsthat will be used to enhance corporate performance and productivity. Entrepreneurs with exceptional management skills are able to run their businesses efficiently. Entrepreneurs with high levels of entrepreneur competency can be more successful in their endeavours. If human capital and entrepreneurial skills continue to grow at a steady rate, entrepreneurial success may continue to rise for a while. Human capital development is the process of developing an individual's skills, creativity, and contribution to society. This area includes education, training, and other techniques for enhancing job performance. This will have a negative impact on employee morale and productivity, as well as the bottom line of the organisation. People capital, which is described as "the sum of a company's human resources," is becoming increasingly crucial to a company's success. Themajority of a company's human resources consist of its employees and the businesses that employ them. Individual work skills, flexibility and adaptability in the workplace, development of individual competencies, organisational competence development, and flexibility and adaptability in the workplace are the four components of human capital. All employeesacquire a range of skills through their jobs, including learning on the job, observing, attending school, and self-learning. These skills enable individuals to perform their duties more efficiently, which benefits the organisation. Human resources are the acquired skills and knowledge of an organization's personnel, which are used to increase the company's overall efficiency and effectiveness. Each person enjoys their time at the company and seeks to make the most of it by continually seeking new ways to acquire new skills and enhance their existing ones. Human capital is an intangible asset of a company consisting of its employees' skills, knowledge, and experience, which all contribute to the company's increased productivity and profitability. Every organisation is accountable for the ongoing training and development of its employees. Employees, on the other hand, exert a great deal of effort, strive to learn more and enhance their existing skills, and

contribute meaningfully to their organisations in a number of ways that all contribute to the overall picture. Because the trend's potential is growing, it is essential to discover individuals with the required skills. Now that the interview and investigation are concluded, we can draw conclusions. First, studies have shown that human capital considerably enhances business capabilities. This suggests that SMBs in the food industry with a high level of human capital will also possess a high level of entrepreneurial skills. Second, the level of skill that entrepreneur possesses has a big impact on the success of their business. This argues that the organization's effectiveness is contingent on the extent to which an individual possesses entrepreneur competencies. Entrepreneurial competency, which acts as a moderating variable, is a third important factor in the association between human capital and business success. This indicates that people with excellent entrepreneurial skills who work for SMEs will be able to contribute to their company's success.

DRAWINGS

Increase in the quality of production and services

Increase in the productivity, profitability and output

Increase in staff attitude

Increase in employee performance

Decrease in costs of absenteeism and turnover

Better use of equipment and systems

Company's gains from investment into human capital

Reducing the time necessary for introduction of new technologies

New products and new customers

Decrease in absenteeism

Better use of employees' potential

Knowledge Entrepreneurship

Entrepreneurial Leadership

Knowledge Management Processes

Entrepreneurial Success

CLAIMS

1. **AN EMPIRICAL ANALYSIS OF ENTREPRENEURIAL SUCCESS IN STRATEGIC HUMAN CAPITAL MANAGEMENT IN SMEs** wherein said that the research analyses investor's investment risk and return.

2. **AN EMPIRICAL ANALYSIS OF ENTREPRENEURIAL SUCCESS IN STRATEGIC HUMAN CAPITAL MANAGEMENT IN SMES** of claim 1, wherein said that it can be used for a variety of purposes.

3. **AN EMPIRICAL ANALYSIS OF ENTREPRENEURIAL SUCCESS IN STRATEGIC HUMAN CAPITAL MANAGEMENT IN SMES** of claim 1, wherein said the study's major objective is to examine how entrepreneurial success in strategic human capital management.

4. **AN EMPIRICAL ANALYSIS OF ENTREPRENEURIAL SUCCESS IN STRATEGIC HUMAN CAPITAL MANAGEMENT IN SMES** of claim 1, wherein said that in this paper, we analyzed and discussed various aspects.

5. **AN EMPIRICAL ANALYSIS OF ENTREPRENEURIAL SUCCESS IN STRATEGIC HUMAN CAPITAL MANAGEMENT IN SMES** of claim 1, wherein said that SME becomes a hot topic in all sector.

6. **AN EMPIRICAL ANALYSIS OF ENTREPRENEURIAL SUCCESS IN STRATEGIC HUMAN CAPITAL MANAGEMENT IN SMES** of claim 1, wherein said that it is a reliable and efficient system for monitoring variables.

7. **AN EMPIRICAL ANALYSIS OF ENTREPRENEURIAL SUCCESS IN STRATEGIC HUMAN CAPITAL MANAGEMENT IN SMES** of claim 1, wherein said that this research looks at all recent work that, limitations and challenges.

8. **AN EMPIRICAL ANALYSIS OF ENTREPRENEURIAL SUCCESS IN STRATEGIC HUMAN CAPITAL MANAGEMENT IN SMES** of claim 1, wherein said that Additional approaches may be studied in the future.

FORM 5
THE PATENTS ACT 1970
(39 of 1970)
&
The Patents rules, 2003
DECLARATION AS TO INVENTORSHIP
[See section 10(6) and rule 13(6)]

1. NAME: OF APPICANT (S)	1. Ms. Nagadeepika M 2. Dr.SP.Krishnaveni 3. Dr. Bala Srinivas 4. Dr. Radhika Wadhera 5. Dr.N.Amber Singh 6. Dr.G.Linganna 7. Dr.D.Muniswamy 8. Dr Suman Roy Barman 9. Dr. Pooja Goel 10. Dr.D.Adeppa 11. Dr. K.Sivaperumal 12. Dr. Harikumar Pallathadka

Hereby declare that the truth and first inventor (s) of the invention disclosed in the provisional specification filed in pursuance of my application numbered **2022**_____ dated_____are.

2. INVENTOR (S)

NAME	NATION-ALITY	ADDRESS
Ms. Nagadeepika M	Indian	Bachelor of Engineering, Information Science and engineering BNMIT, 12th Main Road, 27th Cross, Banashankari Stage II, Banashankari, Bengaluru Pin: 560070 Karnataka India Email: deepikamanjunath510@gmail.com
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Date 02/11/2022

Saurabh Kumar Jain
(IN/PA-3637)
Agent for Applicant

3. DECLARATION TO BE GIVEN WHEN THE APPLICATION IN INDIA IS FILED BY THE APPLICANT (S) IN THE CONVENTION COUNTRY:-
-NA-
~~We the applicant(s) in the convention country hereby declare that our right to apply for a patent in India is by way of assignment from the true and first inventor(s).~~

Dated this____day of_____, 2022.

Signature:-NA
Name: of signatory:- NA

To,
   The controller of patent
   The patent office, at Delhi/Mumbai/Chennai/Kolkata.

FORM-26 PATENT

ACT, 1970

(39 of 1970)

FORM OF AUTHORISATION OF PATENT AGENT

IN A MATTER OR PROCEEDING UNDER THE ACT

(See Sections 127 and 132; Rule 135)

We,

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Dr. K.Sivaperumal	Indian	Assistant Professor Faculty of Science and Humanities, SRM Institute Of Science and Technology SRM Nagar, Kattankulathur, Chennai Pin: 603203 TamilNadu India
Dr. Harikumar Pallathadka	Indian	Director and Professor Manipur International University, Ghari, Imphal, Imphal West,

		Imphal Pin: 795140 Manipur India

hereby authorize **SAURABH KUMAR JAIN, Registered Patent Agents (INPA-3637) of Senan IP | Patent and trademark Services, F-440, delta-1, Greater Noida, U.P., India, PIN- 201310**, to act on our behalf in connection with filing of patent application, and filing patent applications for other inventions from time to time, to represent us and sign all forms anddocuments on our behalf and to do all acts to be performed by an agent under the provisions of the Indian Patents Act, 1970 and also to appoint substitute(s) as may be necessary or expedient.

We, hereby revoke all previous authorizations, if any, in respect of same matter or proceeding.We, hereby assent to the action already taken by the said person in the above matter.

Name: Saurabh Kumar Jain

Address: Senan IP | Patent and trademark Services,F-440, Delta-1, Greater Noida, U.P., 201310 India **Email:** Saurabh@senanip.com

Ph Number: +91-730334633

Date: 02/11/2022

Ms. Nagadeepika M	Dr.SP.Krishnaveni	Dr. Bala Srinivas	Dr. Radhika Wadhera
Dr.N.Amber Singh	Dr.G.Linganna	Dr.D.Muniswamy	Dr Suman Roy Barman
Dr. Pooja Goel	Dr.D.Adeppa	Dr. K.Sivaperumal	Dr. Harikumar Pallathadka

(Applicant's Signature)

To

The Controller of Patents,

The Patent Office

at DELHI / MUMBAI / CHENNAI / KOLKATA

PATENT:3

FORM 2
THE PATENTS ACT 1970
39 OF 1970
&
THE PATENT RULES 2003
COMPLETE SPECIFICATION
(SEE SECTIONS 10 & RULE 13)

1. TITLE OF THE INVENTION

New and innovative business models have a huge effect on increasing stakeholder involvement and improving the performance of organizations

2. APPLICANTS (S)

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Dr.K.BHASKAR	Indian	Assistant Professor of Political Science Government City College (A), Nayapul, Hyderabad, Pin:500002 Telangana India
Dr Suman Roy Barman	Indian	PGT, Commerce Kirit Bikram Institution , Udaipur ,Gomati District, Tripura Pin:799120 Tripura India
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Dr. Harikumar Pallathadka	Indian	Director and Professor Manipur International University, Ghari, Imphal, Imphal West, Imphal Pin: 795140 Manipur India

2. PREAMBLE TO THE DESCRIPTION

COMPLETE SPECIFICATION

The following specification particularly describes the invention and the manner in which it is to be performed

New and innovative business models have a huge effect on increasing stakeholder involvement and improving the performance of organizations

ABSTRACT

The manner in which stakeholders are approached should be altered. This method was intended to aid businesses in earning the trust of stakeholders who can have a substantial impact on the implementation of their business strategy. Experts now concur on one point: organisations must interact with the customers they serve. However, the majority of organisations continue to view adoption as a low-risk, low-reward activity for their company's reputation. Companies are supposed to engage with their stakeholders in areas where everyone may benefit, such as research and development, market expansion, sales, and sustainability. In today's fast-paced business environment, stakeholders are gaining importance. Consequently, businesses are under increased pressure to include these groups in their commercial decisions. However, the majority of earlier literature on stakeholder engagement has concentrated on large firms, and the benefits of stakeholder engagement are often observed in only one development sector. This thesis is therefore about the formation of smaller-scale businesses. It analyses the various ways in which incorporating stakeholders might contribute to a company's growth. The objective of this paper is to add new information to the study of environmentally friendly innovative concepts from the perspective of a business

model. We noticed that research on sustainable innovation typically overlooks the fact that for businesses to successfully commercialise sustainability innovations, they must combine a value proposition with the organisation of the upstream and downstream value chain as well as a financial model. By analysing and contrasting what has previously been published about these issues, this was determined. In order to determine the current condition of business models in the context of long-term technical, organisational, and social advancements, we conduct a literature review. Given that there is no single idea that incorporates all sustainable business models, there is no universal definition of sustainability. In our earlier research, we established a number of "boundary requirements" that business models must satisfy to support sustained innovation. Finally, we formulate research questions that will direct our future efforts.

DESCRIPTIONS

In an era of unprecedented openness and political and social change, corporations are rethinking their social responsibilities. Governments and non-profit organisations are asking businesses to join them in establishing a more equitable and sustainable economy and society. This is anticipated to persist. More than ever, businesses must demonstrate their contributions to the communities in which they operate and make place for fresh ideas and perspectives in their operations. This is the situation since competition has

increased. Formerly, an annual meeting with stakeholder representatives was adequate, but this is no longer the case. This strategy of guaranteeing that businesses can keep up with the rate of change is ineffective. According to the conclusions of this study, stakeholder engagement must evolve from a fundamental chore to a strategic focus that permeates all parts of a company's operations and incorporates feedback and input from a variety of stakeholders. This study suggests that stakeholders should not be included in decision- making just to check a box indicating "done." This shift will require more than a streamlined procedure or cutting-edge engagement technology. It is essential to understand the broader context of stakeholder engagement, the opinions of a broader spectrum of stakeholders, and the interdependence between stakeholder input and company strategy. As predicted by BSR, the future is bright for businesses that adopt stakeholder thinking to become more collaborative, inclusive, and strategic. Organizations that value the whole range of stakeholder contributions, including expertise, credibility, and social networks, as well as opportunities to innovate and engage with stakeholders to solve challenges that affect everyone. They feel that a more networked world is essential to comprehend and adapt to systemic change, and they wish to include those who can affect the organization's operations from outside their immediate circles. They believe a more networked environment will help them analyse and manage systemic change more effectively.

They recognise the value of strong communities to the success of a business, and this knowledge motivates them to take progressively more measures to remove obstaclesto social progression. They now realise that increasing employee engagement across the board cannot be accomplished by an initiative driven by a few of individuals. Instead, a continual effort must be made by personnel from all departments. It is crucial for organisations and their members to be able to communicate and coordinate during a crisis. To retain public confidence in the economy, government, and community as a whole, enterprises must keep their stakeholders informed and collaborate. In this post, we will examine the principles, challenges, and possible benefits of stakeholder management, as well as the reasons why organisations should incorporate it into their processes and systems. Managing stakeholder relationships is to maximise the positive outcomes of a project, organisation, or collaboration while minimising the bad ones. To operate as effectively as possible, the management process should be conducted in cycles. This implies that any lessons learned from one project or approach of company improvement can be used to the next. It emphasises the need of listening to and involving all key stakeholders while employing a sustainable approach to manage stakeholder relationships. Communities, Indigenous Australians, and private landowners are among the external stakeholders in this process. To make the most of your resources, you should conduct research and record all of your findings. On the rise are stakeholder groups such as employees, supply chains, and millennials, which can have a big impact on a company's performance. This influence may be amplified by interactions between the various stakeholder groups (i.e. lines of communication, networks, and systems). The concept of corporate social responsibility not only enables companies to interact with their stakeholders, but it also contributes to the achievement of global objectives such as the Sustainable Development Goals (SDGs). Stakeholder relationship management and the business value obtained from gaining the confidence of stakeholders not only provide the framework for effective communication, but also for resilience and recovery, especially in the face of catastrophes like the spread of the COVID-19 virus. Building stakeholder trust among potentially influential individuals is beneficial for businesses, but only if stakeholder management is conducted with sustainability in mind (i.e., for economic, environmental, and social results). In addition, when an organisation understands and collaborates with its stakeholders, it is better able to anticipate threats and avoid crises. When a crisis cannot be avoided, a company with strong ties with its stakeholders can recover from setbacks, such as a string of poor financial results, more rapidly. By investing in stakeholder relations, you can create assets such as loyalty, which reduces employee turnover and increases retention, and a better reputation and stakeholder perception, which gives you a competitive advantage and prevents you from incurring indirect costs as a result of unforeseen problems or disputes. There are several organisations that apply stakeholder relations on their own, as well as numerous concepts that could aid these organisations in maximising their participation. If you wish to achieve success, you must evaluate your achievements and determine how to

incorporate them into your long-term objectives and continual efforts to enhance quality.

DRAWINGS:
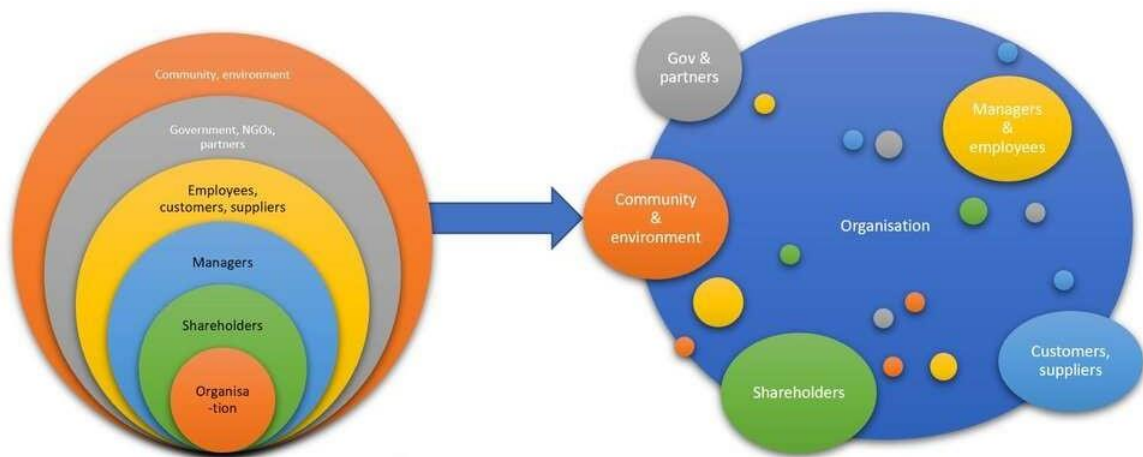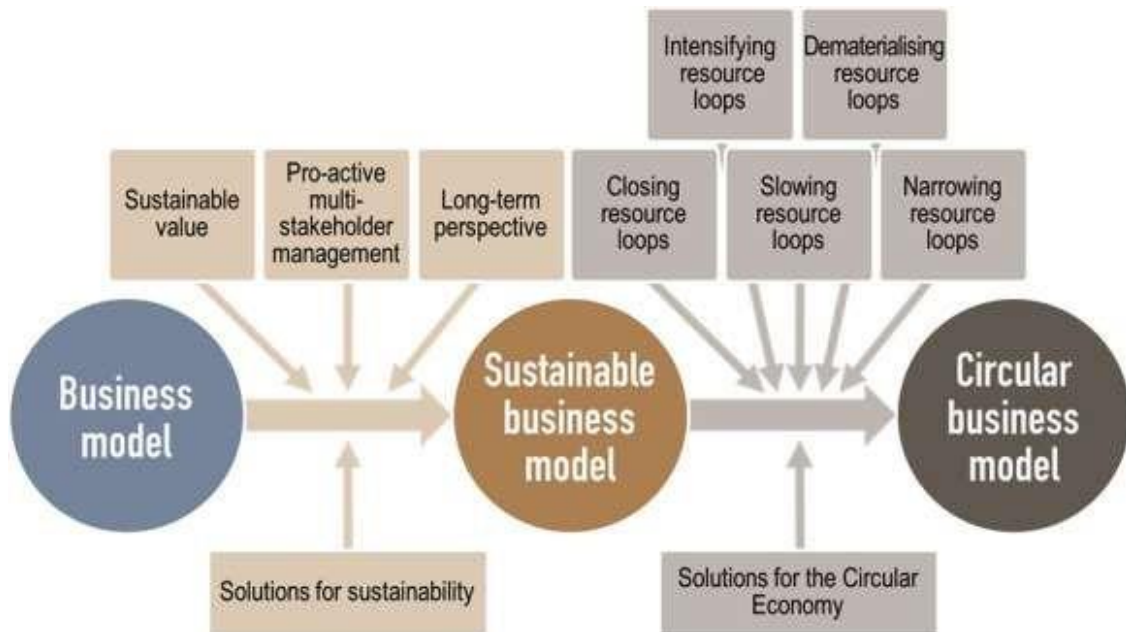
¹ E.g. ESG and impact investment, adaptive climate change management

CLAIMS

1. New and innovative business models have a huge effect on increasing stakeholder involvement and improving the performance of organizations States it is the groundwork for future research.

2. New and innovative business models have a huge effect on increasing stakeholder involvement and improving the performance of organizations of claim 1, wherein said it identify the elements that influence on stakeholder involvement.

3. New and innovative business models have a huge effect on increasing stakeholder involvement and improving the performance of organizations of claim 1, wherein said this paper attempts to explain the concept, and assess its impact.

4. New and innovative business models have a huge effect on increasing stakeholder involvement and improving the performance of organizations of claim 1, wherein said this paper has many applications.

5. New and innovative business models have a huge effect on increasing stakeholder involvement and improving the performance of organizations of claim 1, wherein said that this paper discusses the major advantages and how it can improve.

6. New and innovative business models have a huge effect on increasing stakeholder involvement and improving the performance of organizations of claim 1, wherein said that it is a smart system.

7. New and innovative business models have a huge effect on increasing stakeholder involvement and improving the performance of organizations of claim 1, wherein said that we analyzed and discussed various aspects. New and innovative business models have a huge effect on increasing stakeholder involvement and improving the performance of organizations ofclaim 1, wherein said that system gives an accurate and efficient classification results.

8. New and innovative business models have a huge effect on increasing stakeholder involvement and improving the performance of organizations of claim 1, wherein said that in this research, we focused on using various training functions with feature selection to achieve high accurate results.

9. New and innovative business models have a huge effect on increasing stakeholder involvement and improving the performance of organizations of claim 1, wherein said that in recent years stakeholder has become popular around the world.

FORM-26 PATENT

ACT, 1970

(39 of 1970)

FORM OF AUTHORISATION OF PATENT AGENT

IN A MATTER OR PROCEEDING UNDER THE ACT

(See Sections 127 and 132; Rule 135)

We,

APPLICANTS (S)		
NAME	**NATIONALITY**	**ADDRESS**
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Dr.K.BHASKAR	Indian	Assistant Professor of Political Science Government City College (A), Nayapul, Hyderabad,

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Dr.Rishikaysh Kaakandikar	Indian	Associate Professor Zeal College of Engineering and Research Narhe Pune Pin:411041 Maharashtra India
Dr.Sachin Chavan	Indian	Professor Zeal College of Engineering and Research Narhe Pune Pin:411041 Maharashtra India
Dr. K.Sivaperumal	Indian	Assistant Professor Faculty of Science and Humanities, SRM Institute Of Science and Technology SRM Nagar, Kattankulathur, Chennai Pin: 603203 TamilNadu India
Dr. Harikumar Pallathadka	Indian	Director and Professor Manipur International University, Ghari,

		Imphal, Imphal West, Imphal Pin: 795140 Manipur India

hereby authorize **SAURABH KUMAR JAIN, Registered Patent Agents (INPA-3637) of Senan IP | Patent and trademark Services, F-440, delta-1, Greater Noida, U.P., India, PIN- 201310**, to act on our behalf in connection with filing of patent application, and filing patent applications for other inventions from time to time, to represent us and sign all forms and documents on our behalf and to do all acts to be performed by an agent under the provisions of the Indian Patents Act, 1970 and also to appoint substitute(s) as may be necessary or expedient, and request that all notices, requisitions and communications relating thereto may be sent to such person at the above address unless otherwise specified.

We, hereby revoke all previous authorizations, if any, in respect of same matter or proceeding. We,

hereby assent to the action already taken by the said person in the above matter.

Name: Saurabh Kumar Jain
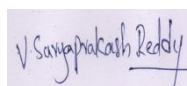
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Date: 17/10/2022
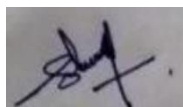
Anshul Mandawat   Dr. Bala Srinivas Vangeti Suryaprakash Reddy   Dr.N.Amber Singh

Dr.K.Bhaskar   Dr Suman Roy Barman   Dr.G.Linganna   Dr.Devendra Narayan Vyas

Dr.Rishikaysh Kaakandikar   Dr.Sachin Chavan   Dr. K.Sivaperumal Dr. Harikumar Pallathadka

(Applicant's Signature)

To

The Controller of Patents,

The Patent Office

at DELHI / MUMBAI / CHENNAI / KOLKATA

FORM 2

THE PATENTS ACT, 1970

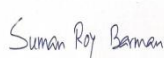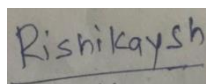(39 of 1970)

&

THE PATENTS RULES, 2003

COMPLETE SPECIFICATION

(See sections 10; rule 13)

TITLE OF THE INVENTION

IMPLEMENTATION OF ARTIFICIAL NEURAL NETWORK TECHNIQUES FOR DETECTION AND CLASSIFICATION OF MELANOMA SKIN CANCER USING HYBRID TEXTURE FEATURES

APPLICANT

NAME: PROF. GURURAJ NASE, RASHMI DHARWADKAR, MS. SHIVANEE VYAS, MR. PANKAJ KUMAR PANDEY, MR. ATAL BIHARI SINGH, DR. GOVIND HANMANTRAO BALDE, PRASHANT K. ADAKANE, G. SRINIVAS REDDY, VISHAL RAMESH RASVE, DR G.S RINIVAS KUMAR, DR V. RAVI SHANKAR, DR A. SUNIL KUMAR

NATIONALITY: INDIAN

IMPLEMENTATION OF ARTIFICIAL NEURAL NETWORK TECHNIQUES FOR DETECTION AND CLASSIFICATION OF MELANOMA SKIN CANCER USING HYBRID TEXTURE FEATURES

BACKGROUND

Technical Field

[0001] The embodiments herein generally relate to an implementation of artificial neural network techniques for detection and classification of melanoma skin cancer using hybrid texture features.

Description of the Related Art

[0002] Melanoma is a serious form of skin cancer in humans. It arises from the pigment cells melanocytes, usually in the skin. Most tumors of the skin are not cancerous and rarely turn into cancer. Skin cancers are divided into non-melanomas and melanomas. Non-melanomas are the most common cancers of the skin. Because they rarely spread elsewhere in the body, they are less worrisome than melanomas. Melanoma is much less common than basal cell and squamous cell skin cancers, but it is far more serious. Because it begins in the melanocytes, most of these cells keep on making melanin thus melanoma tumors are often brown or black but not always. The limitations of visual detection are apparent to dermatologists who are constantly searching for ways to better determine whether suspicious lesions are melanoma or not without having to cut them out first.

[0003] The malware detection systems are being deployed by companies to thwart cyber-attacks originating from downloaded executable files. These conventional malware detection systems utilize machine learning techniques which examine content of the

executable file in connection with signatures associated with known malware. Hence, conventional malware detection systems are reliant on expert analysis in formulating these signatures. Given the static nature of these signatures, however, detection of new or polymorphic malware has become more and more challenging in order to successfully defend a company or an individual user against cyber-attacks. As oxphos decreases due to increased severity of mtDNA mutations, organ-specific energy thresholds are exceeded, which results in various clinical phenotypes. Melanoma starts in the pigment-producing skin cells called melanocytes. The first sign of melanoma is often a change in the size, shape, or color of an existing mole or the appearance of a new mole. Since the vast majority of primary melanomas are visible on the skin, there is a good chance of detecting the disease in its early stages. If not detected at treated at an early stage, these cells become abnormal, grow uncontrollably, and aggressively invade surrounding tissues. Melanoma can spread quickly and produce large malignant tumors in the brain, lung, liver, or other organs, with depth of penetration being predictive of prognosis: Epidermis only.

[0004] Magnetic resonance imaging (MRI) provides an important imaging modality for numerous applications and is widely utilized in clinical and research settings to produce images of the inside of the human body. MRI is based on detecting magnetic resonance (MR) signals, which are electromagnetic waves emitted by atoms in response to state changes resulting from applied electromagnetic fields, nuclear magnetic resonance (NMR) techniques involve detecting MR signals emitted from the nuclei of excited atoms upon the re-alignment or relaxation of the nuclear spin of atoms in an object being imaged . The mitochondrial genome is a compact but extremely important nucleic acid sequence. The mitochondrial genome encodes an enzyme subunit that is required for cell respiration. All mitochondrial DNA that is mtDNA genomes in an individual are identical once fertilized, subject to mitochondrial clonal growth in the egg. The essential role of mtDNA is the production of adenosine triphosphate ATP, the fuel for cells, which ignites cellular metabolism.

[0005] Multiple sclerosis is an inflammatory autoimmune disease of the central nervous system (CNS). Causing MS appears to be a combination of immunological, genetic and environmental factors. It is a chronic demyelinating disease, which primarily affects young adults and is characterized by a highly variable course. The heterogeneous presentation of MS is characterized by a variety of clinical problems arising from multiple regions of demyelination and inflammation along axonal pathways. The signs and symptoms of MS are determined by the location of the affected regions. Skin cancer generally develops in the epidermis, so a tumor is usually clearly visible. This makes most skin cancers detectable in the early stages. Melanoma is less common than basal cell carcinoma and squamous cell carcinoma, but it is the most serious. Non-melanoma skin cancers are the most common skin cancers, and the majority of these are basal cell carcinomas .These are usually localized growths caused by excessive cumulative exposure to the sun and do not tend to spread.

[0006] The limitations of visual detection are apparent to dermatologists who are constantly searching for ways to better determine whether suspicious lesions are melanoma ornot without having to cut them out first. To this end, epiluminescence microscopy (ELM) has come into use. This is a method whereby lesions are looked at using a device that simultaneously magnifies the lesion while reducing visual interference from refractive index differences at the skin-air interface. While ELM does give a different view, it is of limited improvement. The audio streams from all the participants are merged into one single mono- track audio stream, it is impossible to know from what direction the sound arrives, and this may make it difficult to determine who is talking at any given moment. The appealing aspect of texture synthesis is that an arbitrary amount of texture can be generated from the sample without artifacts such as seams or overt repetitions. Texture synthesis has thus found a wide scope of applications ranging from photo retouching to texture mapping in 3d computer graphics. Whereas salient image objects are encoded conventionally, patterns with subjectivelyunimportant details are replaced by a similar texture that can be described by a small amount of texture synthesis parameters, so that only these parameters have to be coded and transmittedto the decoder

[0007] A cyber-attack is conducted by infecting a targeted network device with malware, often in the form of an executable file, which is designed to adversely influence or attack normal operations of the targeted network device. A natural image content is mostly concentrated in the coefficients of the lower frequency domain. Higher frequency parts, for which the human visual system is less sensitive anyway, can thus be removed or quantized in order to lower the amount of data to be coded.

SUMMARY

[0008] In view of the foregoing, an embodiment herein provides a method involves use of a non-invasive approach for recovering nucleic acids such as DNA or messenger RNA or proteins from the surface of skin through a tape stripping procedure that permits a direct quantitative and qualitative assessment of biomarkers. Although tape-harvested nucleic acid and protein expression products are shown to be comparable in quality and utility to recovering such molecules by biopsy, the non-invasive method provides information regarding cells of the outermost layers of the skin that may not be obtained using biopsy samples. The input image is partitioned at the encoder side into a plurality of blocks, each block consisting of a plurality of pixels, so that each block can be separately analyzed and encoded. Similarly, the output at the decoder side image is assembled from a plurality of blocks, wherein each block has been separately decoded and synthesized. Therefore, complex images containing different textures in different image regions can be represented block-wise. In particular, a plurality of texture parameter sets can be computed independently of each block.

[0009] A method for characterizing and/or diagnosing melanoma in a subject, including obtaining a nucleic acid molecule or protein by biopsy of a skin lesion on the subject, and analyzing the nucleic acid molecule to distinguish melanoma from dysplastic nevi and/or normal pigmented skin in the subject. In this method, at least one nucleic acid molecule whose expression is informative of melanoma is detected in the epidermal sample. A test data set is pre-processed in the same manner as was the training data set. Then, the trained learning machine is tested using the pre-processed test data set. A test output of the trained learning machine may be post-processed to determine if the test output is an optimal solution. Post-processing the test output may comprise interpreting the test output into a format that may be compared with the test data set. Alternative postprocessing steps may enhance the human interpretability or suitability for additional processing of the output data.

[0010] The genes encoding miRNAs are much longer than the processed mature miRNA molecule; miRNAs are first transcribed as primary transcripts or pri-miRNA with a cap and poly-A tail and processed to short, 70-nucleotide stem-loop structures known as pre-miRNA in the cell nucleus. This processing is performed in animals by a protein complex known as the Microprocessor complex, consisting of the nuclease Drosha and the double-stranded RNA binding protein Pasha. The present invention to separate the input signal in the frequency domain into a first and a second sub-band signal and to represent only the first sub-band signal by means of a conventional signal representation method, whereas the second sub-band signal is replaced by a synthesized texture. The replacement texture is synthesized from texture parameters that have been adapted so that an output signal composed from the reconstructed first sub-band signal and the synthesized texture is subjectively similar to the original input signal.

[0011] The processor is also operable for collecting the training data set from the database, pre-processing the training data set to enhance each of a plurality of training data points, training the support vector machine using the pre-processed training data set, collecting the test data set from the database, pre-processing the test data set in the same manner as was the training data set, testing the trained support vector machine using the pre-processed test data set, and in response to receiving the test output of the trained support vector machine, post-processing the test output to determine if the test output is an optimal solution.

[0012] In some embodiments, the method provide for a magnetic resonance imaging (MRI) system, comprising: a magnetics system having a plurality of magnetics components to produce magnetic fields for performing MRI; and at least one processor configured to perform: obtaining input MR spatial frequency data obtained by imaging the subject using the MRI system; generating an MR image of the subject from the input MR spatial frequency data using a neural network model comprising: a pre-reconstruction neural network configured to process the input MR spatial frequency data; a reconstruction neural network configured to generate at least one initial image of the subject from output of the pre-reconstruction neural network.The methods involve detection of one or more mutations in the nucleic acid sequence of the nucleic acid molecule obtained from the skin. Such mutations may be a substitution, a deletion, and/or an insertion of the nucleic acid sequence that results in a diseased state in the subject from which the skin sample is obtained. The method is to approach for recovering nucleic acids such as DNA or messenger RNA or proteins from the surface of skin via a tape stripping procedure that permits a direct quantitative and qualitative assessment of biomarkers. Although tape-harvested nucleic acid and protein expression products are shown to be comparable in quality and utility to recovering such molecules by biopsy, the non-invasive method provides information regarding cells of the outermost layers of the skin that may not be obtained using biopsy samples.

[0013] A mtDNA is transmitted exclusively to the offspring through the egg, it is important to understand the mitochondrial sequence through this means of inheritance. The sequence of mtDNA varies greatly in maternal pedigree, and thus disease-related mutations must be clearly understood in comparison to such changes. It is necessary to understand this diversity for optimal identification of disease-related mutations, and therefore, to identify mutations that are directly related to disease as opposed to mutations that are not related to disease.

[0014] The method comprises the steps of separating an input image signal into a first image signal and a second image signal, encoding the first image signal into a first bitstream, analyzing the second image signal and computing texture parameters representing a texture of the second image signal, and encoding the texture parameters into a second bitstream, characterized in that said first and second image signal represent two different sub-bands of the input image signal. The method using neural networks avoided some of the drawbacks of traditional malware detection systems by eliminating the need for labor intensive analyses of previous detected malware by highly trained cyber-security analysts to determine features relevant to malware detection.

[0015] These and other aspects of the embodiments herein will be better appreciated and understood when considered in conjunction with the following description and the accompanying drawings. It should be understood, however, that the following descriptions, while indicating preferred embodiments and numerous specific details thereof, are given by way of illustration and not of limitation. Many changes and modifications may be made within the scope of the embodiments herein without departing from the spirit thereof, and the embodiments herein include all such modifications.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] The embodiments herein will be better understood from the following detailed description with reference to the drawings, in which:

[0017] FIG. 1 illustrates an implementation of artificial neural network techniques for detection and classification of melanoma skin cancer using hybrid texture features according to certain embodiments herein; and

[0018] FIG. 2 illustrates a block diagram illustrating logic included within embodiments of a cyber-security system according to certain embodiments herein.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0019] The embodiments herein and the various features and advantageous details thereof are explained more fully with reference to the non-limiting embodiments that are illustrated in the accompanying drawings and detailed in the following description. Descriptions of well-known components and processing techniques are omitted so as to not unnecessarily obscure the embodiments herein. The examples used herein are intended merely to facilitate an understanding of ways in which the embodiments herein may be practiced and to further enable those of skill in the art to practice the embodiments herein. Accordingly, the examples should not be construed as limiting the scope of the embodiments herein.

[0020] FIG. 1 illustrates a implementation of artificial neural network techniques for detection and classification of melanoma skin cancer using hybrid texture features according to certain embodiments herein; there are two main motivations for conducting genome wide expression profiling studies in melanoma. First, melanoma is one of the best characterized carcinogenesis models for gradual progression of benign lesions to cancer: normal pigmented cells to nevi to atypical nevi to primary melanoma in situ to invasive primary melanoma to aggressive metastatic melanoma. This progression is known to correlate with distinctive chromosomal changes, and is thought to be mediated by stepwise progressive changes in gene expression, suggesting that expression profiling may identify genes responsible for tumorigenesis in melanoma. A sample of cells can be any sample, including, for example, a skin sample obtained by non-invasive tape stripping or biopsy of a subject, or a sample of the subject's bodily fluid.

[0021] The methods for a cyber-security system configured to determine whether an object is associated with a cyber-attack. One embodiment of the cyber-security system can be used to analyze raw, binary code of the executable file for malware. According to one embodiment of the disclosure, binary code of an incoming object undergoes feed-forward processing by a convolutional neural network (CNN), trained using supervised learning, to isolate features associated with the binary code that aid in the classification of the executable file as benign or malicious. The operations of the CNN are pre-trained using labeled training sets of malicious and/or benign binary code files in order to identify features, corresponding to the binary code of the executable file, that are probative of how the executable file should be classified.

[0022] SCC shows loss of heterozygosity, which affects multiple chromosomes, suggesting the involvement of multiple tumor suppressor genes in the development of SCC. Interestingly, in AK, an equal or greater degree of genetic loss is observed in these precursor lesions compared to SCC. This is important in the present invention provided because it suggests that other mechanisms may be involved in the onset of SCC in addition to inactivation of tumor suppressor genes.

[0023] A unified deep-learning processing pipeline for processing MRI data to generate MR images of patients. The deep learning processing pipeline developed by the inventors involves using multiple neural networks to perform different pipeline tasks. Examples of such tasks include removing artefacts from input MR spatial frequency data, reconstructing images from the input MR spatial frequency data, combining MR images generated from data collected by different RF coils, aligning sets of MR images to one another to compensate for patient motion, combining aligned sets of MR images to increase the image signal to noise (SNR), correcting for inhomogeneous intensity variations.

[0024] FIG. 2 illustrates a an exemplary block diagram illustrating logic included within embodiments of a cyber-security system according to certain embodiments herein, the embodiments configured to receive network traffic, this intelligence-driven subsystem can also statically identify indicators in communication packets containing the executable file. The inspection and evaluation performed may involve identifying any communication protocol anomalies or suspicious packet content, as well as using signature matching, heuristics and pattern matching, as well as other statistical or deterministic techniques, in each case, informed and guided by prior work of the analysts. The measurements may be made by any tests, assays or observations that are known to physicians, scientists, diagnosticians, or the like. Biological data may include, but is not limited to, clinical tests and observations, including medical images, physical and chemical measurements, genomic determinations, proteomic determinations, drug levels, hormonal and immunological tests, neurochemical or neurophysical measurements, mineral and vitamin level determinations, genetic and familial histories, and other determinations that may give insight into the state of the individual or individuals that are undergoing testing. Herein, the use of the term data is used interchangeably with biological data.

[0025] The embodiment of the invention is a kit for diagnosing melanoma, or skin cancer including melanoma and non-melanoma skin cancer comprising means for determining the expression profile of one or more miRNAs presented. The melanoma is one of the best characterized carcinogenesis models for gradual progression of benign lesions to cancer: normal pigmented cells to nevi to atypical nevi to primary melanoma in situ to invasive primary melanoma to aggressive metastatic melanoma. This progression is known to correlate with distinctive chromosomal changes, and is thought to be mediated by stepwise progressive changes in gene expression, suggesting that expression profiling may identify genes responsible for tumorigenesis in melanoma. .

[0026] The method is implemented using electronic components and circuits known to those skilled in the art, details will not be explained in any greater extent than that considered necessary as illustrated above, for the understanding and appreciation of the underlying concepts of the present embodiments of the disclosure and in order not to obfuscate or distract from the teachings of the present embodiments of the disclosure. A method is to find a representation of the image in terms of components that exhibit a lower degree of correlation than pixels in the spatial domain. This is usually achieved by applying an orthogonal transformation, such as a discrete cosine transformation (DCT), so as to transform the original image data into the frequency domain. Different spatial frequency components are mostly independent of each other so that the original image can be faithfully represented by selecting only the most "important" frequency components, the components with the largest amplitude, thus reducing the overall amount of image data.

[0027] The operating in conjunction with the computational analysis subsystem, the cyber-security system may also include an intelligence-driven analysis subsystem, whose operations are more directly influenced by and therefore depend on analyses of previously detected malware performed by highly trained cyber-security analysts. More specifically, based on intelligence generated through analyses of known malicious executable files and benign executable files by highly trained cyber-security analysts, this intelligence-driven subsystem is configured to statically identify indicators in the executable file through their automatic inspection and evaluation, which permit their classification.

[0028] The decoded image is provided by a decoding unit incorporated into video encoder. The decoding unit performs the encoding steps in reverse manner. An inverse quantization and inverse transformation unit dequantizes the quantized coefficients and applies an inverse transformation to the dequantized coefficients, the decoded differences are added to the prediction signal to form the locally decoded image.

CLAIMS

I/We Claim:

1   1. A method for implementation of artificial neural network techniques for detection and

2   classification of melanoma skin cancer using hybrid texture features, wherein the method

3   comprises:

4   comprising a signal separator adapted for separating an input image signal into a first

5   image signal and a second image signal;

6   detecting an expression level of one or more genes that are differentially expressed in

7   melanoma relative to atypical nevi or normal pigmented skin, comprising;

8   obtaining multiple texture maps of multiple areas of at least a portion of a three-

9   dimensional (3D) object; wherein the multiple texture maps comprise a first texture map of a

10   first area and of a first resolution, and a second texture map of a second area and of a second

11   resolution, wherein the first area differs from the second area and the first resolution differs

12   from the second resolution; wherein the first area and the second area belong to a face of an

13   avatar;

14   pre-processing the digital image data set to extract features from the image;

15   a first decoder adapted for decoding a first bitstream into a first image signal; and

16   separating an input image signal into a first image signal and a second image signal.

Dated 28th day of February 2023

Signature

ABSTRACT

IMPLEMENTATION OF ARTIFICIAL NEURAL NETWORK TECHNIQUES FOR
DETECTION AND CLASSIFICATION OF MELANOMA SKIN CANCER USING
HYBRID TEXTURE FEATURES

Implementation of artificial neural network techniques for detection and classification of melanoma skin cancer using hybrid texture features. The method comprises a signal separator adapted for separating an input image signal into a first image signal and a second image signal, detecting an expression level of one or more genes that are differentially expressed in melanoma relative to typical nevi or normally pigmented skin. The obtaining multiple texture maps of multiple areas of at least a portion of a three-dimensional object, wherein the multiple texture maps comprise a first texture map of a first area and of a first resolution and a second texture map of a second area and of a second resolution, wherein the first area differs from the second area and the first resolution differs from the second resolution, wherein the first area and the second area belong to a face of an avatar, pre-processing the digital image data set to extract features from the image and separating an input image signal into a first image signal and a second image signal.

FORM- 5
THE PATENTS ACT, 1970(39 of
1970)
&
The Patents Rules, 2003 DECLARATION AS TO
INVENTORSHIP
[See Section 10(6) and Rule 13(6)]

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hereby declare that the true and first inventor(s) of the invention disclosed in thecomplete specification filed in pursuance of ~~my~~ / our application numbered
_____ dated 02/03/2023 ~~is~~/are

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3. DECLARATION TO BE GIVEN WHEN THE APPLICATION IN INDIA IS FILED BYTHE APPLICANT(S) IN THE CONVENTION COUNTRY: -

N.A.

We the applicant(s) in the convention country hereby declare that our right to applyfor a patent in India is by way of assignment from the true and first inventor(s).

Dated this 02nd day of March 2023

Prof. Gururaj Nase
Applicant(s)

To,
The Controller of Patents The Patent
Office, Chennai.