

Fig. 1

Dated this 24th day of February, 2025
For: Bernstone International Private Limited

Mr. Dipak Sayaji Kokane
IN/PA 2013
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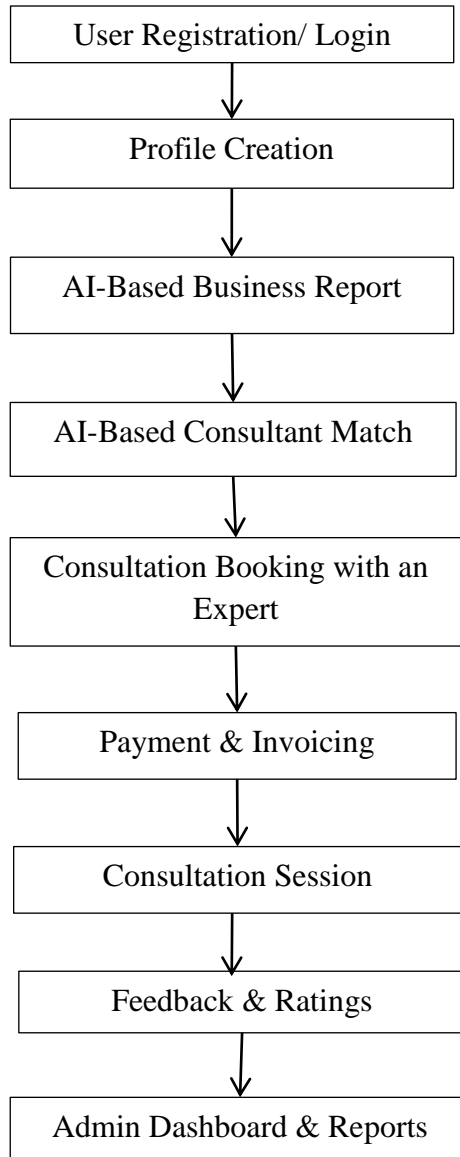


Fig. 2

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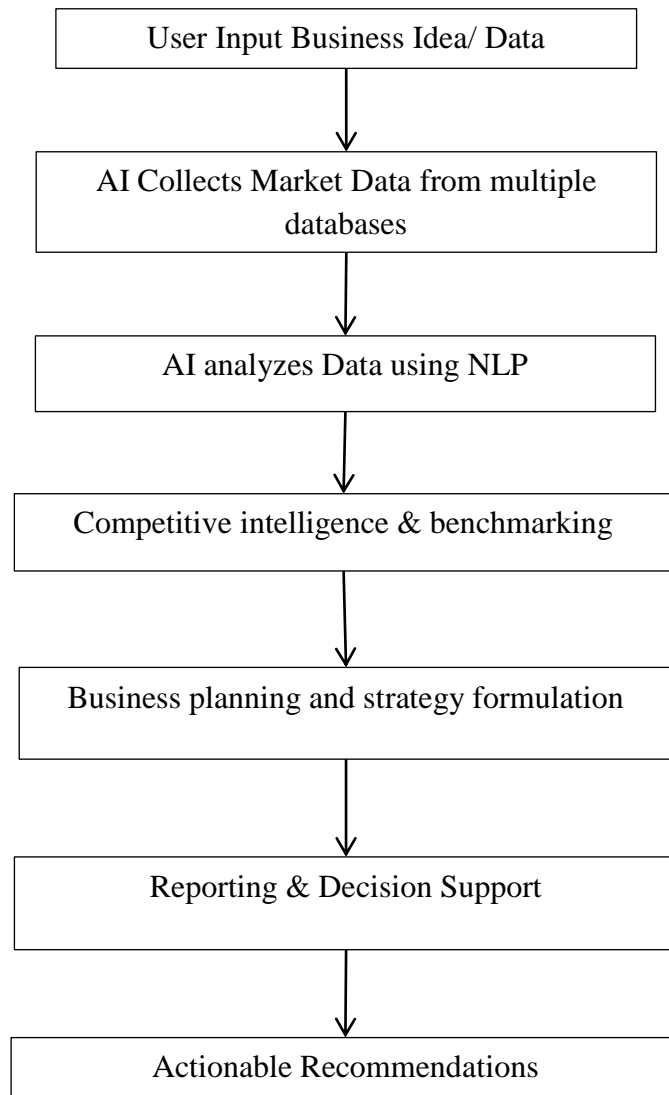


Fig. 3

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For: Bernstone International Private Limited

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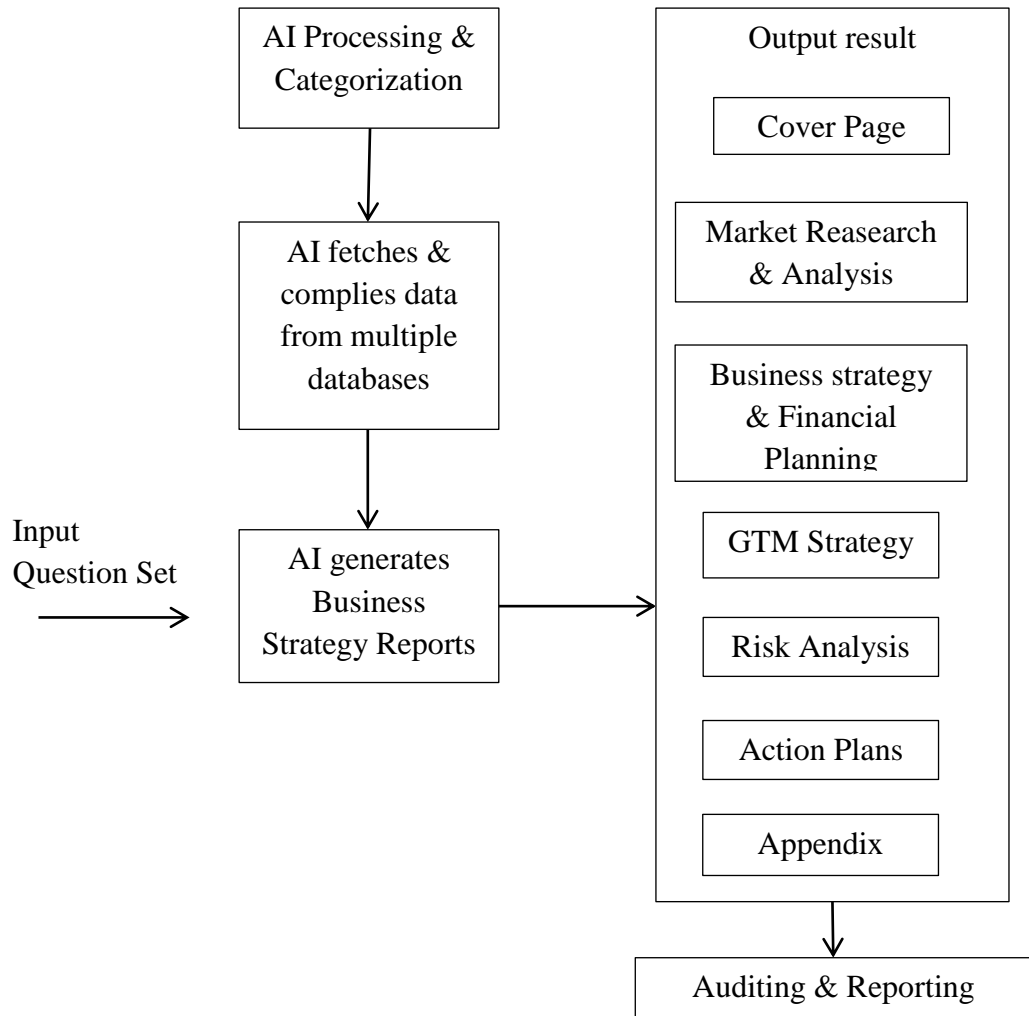


Fig. 4

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For: Bernstone International Private Limited

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FORM 2

THE PATENT ACT 1970

(39 of 1970)

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The Patents Rules, 2003

COMPLETE SPECIFICATION

(See section 10 and rule 13)

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**“AI-BASED SYSTEM AND A METHOD THEREOF FOR AUTOMATED
MARKET RESEARCH AND BUSINESS PLAN GENERATION”**

15

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20

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

AI-BASED SYSTEM AND A METHOD THEREOF FOR AUTOMATED MARKET RESEARCH AND BUSINESS PLAN GENERATION

FIELD OF THE INVENTION

The present invention relates to the field of Market Research and Business
5 Consulting Tools, specifically focusing on the development of a generative AI
platform to automate market research and create business strategy. More
particularly, the present invention falls under the categories of AI-powered
business intelligence tools and automated market research systems.

BACKGROUND OF THE INVENTION

10 In today's rapidly evolving business landscape, companies increasingly rely on
timely and accurate market research and strategic business planning to maintain a
competitive edge. Traditionally, these tasks have been manual, time-consuming,
and resource-intensive processes. Business owners, consultants, and entrepreneurs
often rely on extensive data collection, analysis, and synthesis to create actionable
15 business plans and market research reports. This process typically involves
gathering data from various sources, such as industry reports, customer feedback,
competitor analysis, and financial data, followed by manual compilation and
validation.

However, the traditional approach to market research and business plan creation
20 has several limitations such as Manual data collection and analysis that can take
weeks or even months thus delay decision-making and business strategy
implementation.

Recent advancements in artificial intelligence (AI) and machine learning (ML)
have begun to transform how businesses approach market research and strategic
25 planning. Generative AI, particularly when combined with advanced natural
language processing (NLP) techniques, can analyze vast amounts of structured
and unstructured data, synthesizing complex information into coherent and
actionable insights. This capability has led to the emergence of various AI-based

solutions that aim to automate and enhance market research and business consulting functions.

Existing AI-based solutions include platforms such as IBM Watson Market Insights, GrowthBot, and Salesforce Einstein. These systems leverage machine
5 learning algorithms to identify market trends, analyze consumer behavior, and provide financial forecasting by accessing data from diverse sources like Bloomberg, Statista, and public records. For example: IBM Watson Market Insights utilizes sophisticated analytics to provide data-driven market predictions and strategic recommendations; GrowthBot integrates data from social media,
10 news, and financial databases to deliver real-time market insights; and Salesforce Einstein provides advanced analytics within the customer relationship management (CRM) environment to support business decision-making.

While AI can provide valuable insights, human expertise is still crucial for interpreting results and making informed decisions. Moreover, existing systems
15 may not fully support a comprehensive workflow that encompasses data collection, trend analysis, strategic planning, and expert collaboration—all within a single, unified platform.

Therefore, to solve the limitations associated with prior art, the present invention discloses a generative AI tool that not only automates the process of market
20 research and business plan development through access to multiple diverse databases but also incorporates a multi-interface system. This system engages administrators, experts, and end-users (clients) to ensure that the insights provided are both accurate and contextually relevant. By integrating data from financial, economic, industry-specific, and public records databases, and by providing a
25 trusted and compliant environment, the invention enhances the quality and speed of strategic decision-making.

Ultimately, the present invention provides an innovative solution that bridges the gap between automated data analytics and expert-driven business consulting,

enabling organizations to make informed, strategic decisions with greater confidence and clarity.

OBJECTIVES OF THE INVENTION

5 The primary objective of the present invention is to provide an AI-based system and method that automates the process of gathering and analyzing market data from multiple sources to reduce the reliance on manual research.

10 Another objective of the present invention is to provide an AI-based system and method that enables users to generate detailed and customized business plans based on real-time data, ensuring well-informed decision-making for product launches and company strategies.

Another objective of the present invention is to provide an AI-based system and method that empowers business leaders, entrepreneurs, and startups with data-driven insights, enabling them to make strategic, well-informed decisions with confidence.

15 Another objective of the present invention is to provide generative AI algorithms for compiling structured business reports, including insights on market trends, competitive analysis, product development, marketing strategies, and manufacturing recommendations.

20 Another objective of the present invention is to provide an AI-based tool that connects business owners with expert consultants thereby allowing users to make data-driven decisions by seeking expert advice.

25 Further objectives, advantages, and features of the present invention will become apparent from the detailed description provided herein below, in which various features and functionalities of the disclosed invention are illustrated by way of the following examples.

SUMMARY OF THE INVENTION

The present invention discloses a Generative AI-based system designed to automate market research and business plan development by integrating data from multiple databases and generating AI-powered reports. This system is intended to assist entrepreneurs, startups, and enterprises in analyzing markets, planning
5 business strategies, and optimizing product launches.

The generative AI-based system comprises a modular and multi-layered architecture designed to efficiently process user inputs, aggregate data from multiple sources, validate and refine the information, and generate a structured business report.

10 The system collects, validates, and synthesizes data from multiple databases, including market research databases, product and company information sources, literature repositories, technical research databases, user feedback, and social media reviews.

The AI processes user-submitted prompts (such as product details, business goals,
15 and target industries) and automatically generates a comprehensive business report. The system offers different interfaces for administrators, experts, and clients, ensuring collaborative refinement of the generated insights.

Advanced AI algorithms filter out irrelevant or redundant information, ensuring that reports contain only the most accurate and relevant business insights. The AI
20 system tailors the final report based on user requirements, providing customized strategies for market entry, marketing, manufacturing, and business growth.

The first step in generating an AI-powered business report begins with the user providing key details about their business idea, product, or service. This input acts as the foundation upon which the system conducts research and analysis. The user
25 specifies the product or service description, outlining its features, benefits, and intended purpose. Additionally, the industry sector must be identified to ensure that the analysis is tailored to the specific market landscape. The user also defines the target audience and geographical market, which helps the AI determine

consumer preferences, regional demand, and potential competitors in the selected location. Furthermore, the user outlines their business goals, which may include objectives such as launching a new product, expanding into new markets, securing investments, or optimizing business operations. These details enable the AI system to conduct a focused and relevant market analysis, ensuring that the final business report is aligned with the user's strategic objectives.

Once the user submits their input, the AI-powered system initiates the data aggregation process by fetching relevant market information from both internal and external databases. This step is crucial as it ensures that the generated business report is based on real-time, data-driven insights.

The system retrieves information from various market research databases, providing valuable details on industry trends, competitor analysis, market size, and growth projections. These insights help businesses understand market dynamics and potential opportunities. Additionally, product databases are accessed to gather information on product specifications, pricing models, and innovation trends, allowing businesses to benchmark their offerings against existing market standards.

To further refine its analysis, the AI system integrates data from company databases, which provide competitor financials, strategic initiatives, and operational models. This enables businesses to identify competitive advantages and market positioning strategies. The system also pulls information from technical and literature databases, including research papers, whitepapers, and patents, to incorporate cutting-edge technological advancements and industry best practices into the business plan.

Finally, the AI system analyzes user feedback and review databases, which compile consumer sentiment, social media trends, and customer pain points. By assessing customer opinions and expectations, businesses can fine-tune their offerings to meet market demands effectively.

This multi-source data aggregation ensures that the AI-generated business report is comprehensive, accurate, and tailored to the user’s specific business objectives.

5 Once the refined data is prepared, the system employs advanced Natural Language Processing (NLP) and generative AI algorithms to transform the aggregated information into a well-structured business report. This report is segmented into key sections that provide a comprehensive overview of the market, including detailed market analysis covering industry trends, the competitive landscape, and consumer behavior. It further outlines tailored business strategy recommendations, addressing market entry tactics, product
10 positioning, and go-to-market strategies, as well as an in-depth marketing plan featuring digital marketing, branding, and customer acquisition strategies. The report also includes an analysis of manufacturing and supply chain strategies, suggesting optimal manufacturing locations, production cost analysis, and supplier recommendations, alongside an operational and financial plan that offers
15 revenue projections, funding options, and risk assessments. Following the initial AI-generated report, industry experts and administrators have the opportunity to review and customize the output, adding their expert insights and ensuring accuracy. This expert review stage allows users to request modifications to further tailor the report to their specific business needs. Finally, the completed report is
20 delivered in a user-friendly format—such as PDF, Word, or a web-based presentation—enabling users to readily implement the strategic recommendations or seek additional refinements as required.

Further understanding of the nature and advantages of the invention may be realized by reference to the remaining portions of the specification, drawings, and
25 attached documents.

BRIEF DESCRIPTION OF THE DRAWINGS

In order to understand the invention and to see how it may be carried out in practice, embodiments will now be described, by way of non-limiting example only, with reference to the accompanying drawings.

Fig. 1 illustrates a simplified diagram of an artificial intelligence system according to an example of the present invention.

Fig. 2 is a flow-chart illustrating the step-by-step process of AI-Powered Consulting and Business Strategy Development according to an embodiment of the present invention.

Fig. 3 is a flow-chart illustrating the AI-driven process for analyzing market trends and developing business strategy according to an exemplary embodiment of the present invention.

Fig. 4 is a simplified diagram illustrating how AI processes user submitted questionnaire to generate detailed business strategy report according to an example of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

The present invention discloses an AI powered market research and business planning system, specifically focuses on data-driven insights, automated content generation, and predictive analysis.

Referring now to Fig 1, the system architecture of an AI-based market research and business planning system is illustrated. The system comprises a user interface (UI) that allows business owners, entrepreneurs, and analysts to input critical business-related data, including product details, industry types, unique selling propositions (USP), target audience demographics, financial goals, and additional strategic parameters. The user interface is designed to be intuitive and interactive, enabling users to seamlessly enter data through web-based dashboards, mobile applications, and API integrations.

Upon receiving user input, the system connects to multiple databases, including industry and market databases, product databases, consumer behaviour insights, financial databases, and literature repositories. The data collection module fetches

relevant information via API interfaces from multiple databases to access real-time market trends and business intelligence data.

Once the data is gathered, the Natural Language Processing (NLP) module and Machine Learning (ML) algorithms analyse patterns, identify key insights, and structure the information for decision making. The AI-driven report generation module then compiles the results into comprehensive business strategy reports having market research insights, competitive analysis, pricing strategies, and financial projections.

Additionally, the system incorporates a security and compliance module to ensure data privacy, encryption, and adherence to regulatory standards. The final insights and reports are presented to the user through data visualization module, which includes graphs, charts, dashboards, and interactive business intelligence tools.

According to another embodiment of the present invention, the generative AI based system may also incorporate a multi-role authentication system to manage access control and ensure secure interactions between various user roles, such as Business Owner, Consultant, and Admin. This multi-role authentication system enhances the flexibility, security, and privacy of the AI-powered market research and business planning platform.

The multi-role authentication system would use role-based access control (RBAC) to ensure that each user's access is restricted to only those parts of the system that are relevant to their role. This would include:

1. User registration and login: Each user including business owners, consultants, and admin, based on their role, would go through a secure authentication process to log into the system.
2. Access control rules: Role-specific rules define what data and features users can access, ensuring that sensitive business and financial information is only available to authorized roles.

3. Audit logs: Admins would have access to audit logs to monitor system access and ensure security compliance by tracking user activities.

For an example, the Business Owner role would require a highly secure, multi-factor authentication (MFA) method to protect sensitive business data. Access would be granted to the overall system with an emphasis on decision-making and data insights. The business owners/users would have permission to view comprehensive market research reports, formulate business strategies, access high-level financial modelling tools, and review actionable recommendations. Furthermore, the Business owner's would primarily interact with the Reporting & Decision Support and Business Planning & Strategy Formulation blocks, leveraging insights for strategic planning and major business decisions.

Consultants would authenticate with their own secure credentials, potentially with lower access levels than the Business Owner, depending on the specific permissions granted. Consultants may be granted access to market trend data, competitive benchmarking results, and insights for providing expert advice. However, they may not be able to modify the core business strategies or view highly sensitive financial data. Consultants would engage primarily with the Market Trend Analysis & Insights and Competitive Intelligence & Benchmarking blocks, offering specialized recommendations based on market trends and competitor analysis.

The Admin role is typically responsible for managing system access and maintaining security protocols. Admins would also authenticate with secure MFA methods, often with elevated privileges to manage user roles, permissions, and configurations within the system. Admins have full control over user management, configuring role-based access to the platform. They can view, modify, or restrict access to any of the system components, including the Data Collection & Integration, Pre-processing, and Reporting & Decision Support blocks, ensuring appropriate security measures are in place. Admins would not directly interact with market analysis or strategic formulation but focus on the

backend system to ensure operational continuity, secure user access, and efficient data processing.

This multi-role authentication system ensures the integrity and security of the AI-powered market research and business planning platform by restricting access based on the user's role, thereby preventing unauthorized access to sensitive data while enabling tailored functionality for each user.

Referring now to Fig. 2, illustrating a step-by-step workflow for an AI-powered business consultation system, enabling users (such as business owners, startups, and enterprises) to access data-driven insights, expert recommendations, and strategic business planning services. The process begins when a business owner or entrepreneur accesses the platform and initiates the registration processes by signing up using email, Google, LinkedIn, or any other single sign-on (SSO) methods. Furthermore, the platform employs OAuth2.0 and JWT-based authentication protocols to provide a secure login and access control mechanism and protect user credentials. Additionally, the system implements role-based access control, distinguishing users based on their profiles, such as business owners, consultants, or administrators. This classification enables customized access permissions, ensuring that each user interacts with the platform according to their designated role.

After successful registration, users proceed to create a business profile by entering essential details that help the AI system understand their specific needs and objectives. This includes the business name and industry, which identifies the sector in which the company operates, such as retail, technology, healthcare, or finance. Users also specify their business challenges and goals, outlining key concerns like market expansion, competitor analysis, pricing optimization, or operational efficiency. Additionally, they provide information about their budget and consultation preferences, helping the system recommend the most suitable experts based on pricing constraints and business needs.

Similarly, consultants must create professional profiles that showcase their expertise and specialization in various domains, such as marketing, finance, business strategy, operations, or legal consulting. They also define their availability and pricing, specifying consultation fees and the time slots during
5 which they are available for appointments. By completing their profiles, both business owners and consultants enable the AI system to facilitate personalized matchmaking, ensuring optimal collaboration between industry professionals and those seeking expert guidance.

Once the profile creation is complete, the AI system begins analyzing the user's
10 input data to generate a personalized business report. This process starts with collecting relevant data from multiple sources, including market reports, financial databases, consumer behavior insights, and industry trends. The AI system integrates information from public and proprietary datasets, ensuring that the generated report is based on the most up-to-date and comprehensive business
15 intelligence.

Next, the system applies Artificial Intelligence (AI) and Machine Learning (ML) algorithms to assess business opportunities, potential challenges, and emerging trends. Advanced Natural Language Processing (NLP) and predictive analytics help identify market gaps, pricing strategies, and key performance indicators
20 (KPIs) that could influence business success.

Once the analysis is complete, the AI system compiles a structured business strategy report, incorporating valuable insights such as SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis, financial projections, and competitor benchmarking. This report serves as a strategic roadmap, offering
25 tailored recommendations on how to optimize operations, refine pricing strategies, enhance market positioning, and scale the business efficiently.

After generating the AI-driven business report, the system proceeds to identify and recommend the most suitable consultants who can provide further expert

guidance. This process is powered by machine learning algorithms, which analyze the user's business profile, industry, challenges, and objectives to find the best-matched consultant based on expertise, relevance, and past performance.

5 The system employs an AI-powered matchmaking mechanism that evaluates consultants by considering various factors such as domain expertise, years of experience, successful case studies, and previous client feedback. A recommendation engine then ranks consultants dynamically, prioritizing those with high ratings, relevant industry experience, and a strong history of providing valuable insights.

10 For greater flexibility, users are also provided with a manual filtering option, allowing them to refine their consultant search based on specific criteria, such as consultation fees, geographical location, availability, and user ratings. This ensures that business owners have complete control over selecting the expert who aligns best with their strategic goals.

15 After selecting a consultant, users can schedule a consultation session using a real-time booking system. This system is designed for seamless scheduling and time management, ensuring convenience for both users and consultants. The system integrates with Google Calendar, Outlook, and Zoom APIs, allowing users to check consultant availability and book slots accordingly. Users can reschedule
20 or cancel bookings based on changing requirements. The platform sends email, SMS, and push notifications to both parties before the consultation, reducing missed appointments and improving engagement.

Once a consultation is booked, the platform ensures a secure and efficient payment processing and invoicing system, providing a seamless transaction
25 experience for both users and consultants. The system integrates with trusted payment gateways such as Stripe, PayPal, and Razorpay, enabling users to make online payments quickly and securely. These gateways support various payment

methods, including credit/debit cards, bank transfers, and digital wallets, ensuring flexibility for global transactions.

To enhance security, the checkout process is PCI-compliant, meaning it follows industry-standard protocols to protect sensitive financial data and prevent fraud.

5 Users can confidently complete transactions knowing that their personal and payment information is encrypted and safeguarded.

Additionally, the system features automated invoice generation, where users receive PDF invoices and digital receipts immediately after payment confirmation. This ensures proper record-keeping, expense tracking, and
10 compliance with financial reporting standards. By automating this process, the platform eliminates manual invoicing errors, reduces administrative overhead, and enhances the overall user experience.

At the scheduled time, the consultation session is conducted through multiple communication channels, ensuring seamless interaction, knowledge sharing, and
15 collaboration between users and consultants.

To facilitate real-time discussions, the platform integrates video call and web meeting capabilities via WebRTC, Zoom, or Agora API, allowing users and consultants to engage in live, interactive sessions. These high-quality, secure video calls enable effective communication, ensuring that business owners can
20 receive expert advice in a personalized and engaging manner.

In addition to video conferencing, the platform includes an in-app messaging system that provides a secure and convenient way for users to send follow-up questions, share insights, or exchange additional details. This chat functionality ensures ongoing communication even after the consultation session has ended.

25 To enhance productivity, the system supports file sharing and document collaboration, allowing both parties to upload, exchange, and review critical business documents, such as business plans, financial reports, market research

insights, and strategic proposals. This feature ensures that consultants can offer detailed, data-driven recommendations based on shared materials.

A key advantage of the platform is its real-time AI assistance, which includes AI-powered chatbots and virtual assistants that can summarize discussions, provide relevant insights, and suggest supporting documents during the session. This feature helps users retain important information, track key takeaways, and make more informed business decisions based on AI-generated insights.

Once the consultation session concludes, users are encouraged to provide feedback and ratings, which play a crucial role in enhancing AI recommendations and consultant rankings. This feedback mechanism ensures continuous improvement in the quality of consultations and helps future users make more informed decisions when selecting experts.

The platform includes a 5-star rating system, allowing users to evaluate consultants based on expertise, communication skills, and problem-solving abilities. This ensures that high-performing consultants receive better visibility, while those with lower ratings can improve their services based on constructive feedback.

Additionally, users can submit detailed written reviews, providing insights into their experience, the consultant's approach, and the effectiveness of the advice given. These reviews are publicly visible to future clients, fostering transparency and trust within the platform.

A key aspect of this system is its AI-powered learning mechanism, which continuously analyzes feedback data to refine consultant recommendations. The AI model learns from user interactions, preferences, and ratings, adjusting its matchmaking algorithm to provide more accurate and personalized consultant suggestions over time.

Referring now to Fig. 3 illustrating the AI-driven process for market research and business strategy development, providing a structured step-by-step workflow that enables businesses to make data-driven decisions. The process begins with user input, where business owners, entrepreneurs, or decision-makers enter key details such as their business idea, industry type, financial goals, and target audience. This input acts as the foundation for AI analysis, allowing the system to tailor its insights to the specific needs of the user.

Once the user data is received, the AI system collects relevant market data from multiple external and internal databases, including industry reports, competitor analysis sources, financial databases, consumer behavior insights, and regulatory information. These data sources ensure that the AI has access to comprehensive, real-time business intelligence. The data collection module is responsible for fetching structured and unstructured data using APIs, web scraping techniques, and cloud-based storage systems, allowing for seamless integration of multiple datasets.

After gathering the necessary data, the AI processes the information using Natural Language Processing (NLP) and Machine Learning (ML) algorithms. NLP is used to extract key insights from market reports, financial statements, and social media trends, while ML models analyze historical trends, customer behaviors, and competitor strategies to make accurate business forecasts. At this stage, the AI system identifies emerging industry trends, potential risks, pricing opportunities, and market gaps, ensuring that businesses can capitalize on high-growth opportunities while mitigating risks.

With data analysis complete, the system performs competitive intelligence and benchmarking, where AI compares the business's performance with that of its competitors. This step involves evaluating market positioning, product pricing, customer acquisition strategies, and financial performance. By identifying strengths and weaknesses in the competitive landscape, AI helps businesses understand where they stand and how they can differentiate themselves.

The next step is business planning and strategy formulation, where AI generates tailored strategic recommendations based on the collected insights. This includes creating a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis, defining go-to-market (GTM) strategies, optimizing pricing models, and suggesting scaling opportunities. The AI system also provides financial forecasting, helping businesses predict revenue, expenses, and profitability trends based on market conditions and historical data.

Once the AI has formulated a comprehensive business strategy, it compiles all the findings into an AI-generated business report. This structured report includes sections on market research insights, competitor benchmarking, business modeling, risk assessment, and revenue projections. The report serves as a decision-making tool, helping business owners understand the best course of action for their company's growth.

Finally, the AI system provides actionable recommendations, allowing users to implement data-backed decisions with confidence. These recommendations may include expansion opportunities, operational improvements, investment strategies, and risk mitigation plans. The AI continuously learns from user feedback and market updates, ensuring that the recommendations remain relevant and adaptive to changing business environments.

Referring now to figure 4 illustrating a simplified AI-driven workflow that processes a user-submitted questionnaire to generate a detailed business strategy report. This process leverages artificial intelligence (AI), machine learning (ML), and natural language processing (NLP) to analyze user input, fetch relevant data, and compile an actionable business plan. The system is designed to help businesses make data-driven strategic decisions based on AI-generated insights.

The process begins when a user submits a structured questionnaire containing business-related queries. This questionnaire is designed to gather essential information about the user's industry, financial goals, competitor landscape, and

growth objectives. Questions may include topics such as market trends, pricing strategies, investment planning, expansion opportunities, regulatory compliance, and risk assessment. By providing specific and targeted questions, the system ensures that the AI model can generate highly relevant and actionable insights.

- 5 This user-driven approach allows businesses to focus on key decision-making areas, ensuring that the AI processes the most critical aspects of business strategy formulation.

Once the questionnaire is received, the AI system processes the input and categorizes the questions based on their content. Using Natural Language
10 Processing (NLP), the AI extracts key topics and maps them to specific business functions such as market research, financial forecasting, customer segmentation, or risk assessment. This step ensures that each query is assigned to the most relevant AI model for further analysis. Additionally, the AI identifies whether the data required for answering the question is available internally (historical business
15 data) or externally (market intelligence sources, financial reports, or competitor benchmarks). By structuring the questionnaire into well-defined analytical categories, this step enables the AI to generate highly accurate and context-aware business insights.

After categorizing the input, the AI system retrieves relevant data from multiple
20 external and internal sources. It accesses real-time business intelligence from market research databases, financial analysis reports, industry forecasts, competitor benchmarking platforms, consumer insights tools, and regulatory compliance sources. The AI integrates this information into a structured dataset using API connections, cloud-based data lakes, and machine learning-driven web
25 scraping. This ensures that the insights are up-to-date, comprehensive, and reflective of actual market conditions. By pulling in a diverse range of structured and unstructured data, this step enables the AI system to make fact-based, predictive business recommendations tailored to the user's specific needs.

Once the necessary data has been collected, the AI system analyzes the information and generates a structured business strategy report. The report includes:

- 5 • Market Research & Industry Trends – A data-driven overview of market growth potential, customer demand shifts, and emerging business opportunities.
- Competitor Benchmarking – AI compares the user’s business performance with competitors, identifying market gaps, pricing strategies, and customer acquisition methods.
- 10 • Financial Projections & Investment Planning – AI models revenue forecasts, cost structures, and funding opportunities for sustainable growth.
- Go-to-Market (GTM) Strategy – Recommends marketing channels, sales optimization techniques, and digital advertising strategies.
- 15 • Risk Analysis & Mitigation Plans – AI assesses potential business risks, regulatory compliance issues, and economic challenges while providing counter-strategies.
- Actionable Recommendations – Provides data-driven business solutions, including pricing optimization, cost-cutting strategies, and expansion plans.
- 20

By automating business report generation, this step saves businesses significant time and effort, ensuring that their decisions are backed by real-time, AI-powered insights.

25 Once the AI-generated business report is finalized, it is presented to the user in various formats to enhance decision-making. Users can access the report through interactive dashboards that provide visual insights, dynamic charts, and real-time analytics. Additionally, the system allows users to download reports in PDF or Word formats for presentations, investor meetings, and business planning. To further refine recommendations, users can engage with an AI-powered decision

support system, where they can modify input parameters, request deeper insights, or conduct scenario-based analysis. This step ensures that business owners can make strategic, well-informed decisions based on comprehensive AI-generated data.

- 5 The final step ensures that all AI-generated insights and reports are logged, monitored, and continuously improved. The AI system maintains a structured audit trail, tracking how users interact with the recommendations and refining its algorithms based on historical feedback, industry changes, and emerging business trends. Additionally, the AI model undergoes self-learning updates to enhance
- 10 data accuracy, compliance monitoring, and predictive capabilities. Businesses can also access past reports, performance analytics, and regulatory compliance logs, ensuring that decision-making is fully documented and aligned with industry best practices.

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CLAIMS

I/We claim,

1. A system for AI-powered market research and business plan generation, comprising:
 - 5 a. a user interface module configured to receive user inputs business data and retrieve AI generated reports;
 - b. a data collection module, comprising a plurality of APIs and web connectors, configured to access structured and unstructured data from multiple external and internal databases, including market research
10 databases, product databases, company information databases, technical literature databases, and user feedback repositories;
 - c. a data validation and filtering module, implemented using a specialized hardware processor, configured to:
 - verify the accuracy of retrieved data,
 - 15 ▪ remove redundant, outdated, or conflicting data entries, and
 - structure the validated data into predefined formats for further processing;
 - d. a generative AI-based processing unit, integrated with hardware accelerators, configured to analyze the validated data using machine
20 learning and NLP techniques to generate structured business reports comprising market analysis, business strategy recommendations, marketing plans, manufacturing strategies, and financial projections;
 - e. an expert review and customization module, implemented through a secured cloud-based framework, enabling human experts to validate,
25 modify, or refine the AI-generated business report before finalizing;
 - f. an AI-driven report generation module that synthesizes the analyzed data into a structured business strategy report, including market trends, financial projections, SWOT analysis, and go-to-market strategies;

- g. a security and compliance module, configured to ensure encrypted data transmission, authentication control, and compliance with regulatory frameworks, including GDPR, ensuring secure handling of sensitive business information.
- 5
- 2. The system as claimed in claim 1, wherein the data aggregation module further comprises a real-time API monitoring unit that dynamically fetches updated data from third-party databases based on user-specific queries, ensuring up-to-date market insights.
 - 3. The system as claimed in claim 1, wherein the data validation and filtering
10 module further comprises: a redundancy elimination unit that applies deep learning techniques to detect duplicate information and conflicting data points across multiple sources.
 - 4. The system as claimed in claim 1, wherein the generative AI-based
15 processing unit further comprises: a customized transformer-based neural network trained specifically on business intelligence datasets, enhancing the accuracy and relevance of generated market insights.
 - 5. The system as claimed in claim 1, wherein the report generation and
20 delivery module further comprises a document encryption unit configured to apply cryptographic techniques to secure generated reports before distribution.
 - 6. A method for AI-powered market research and business plan generation, comprising the steps of:
 - a. receiving user input through a graphical user interface, wherein the
25 input comprises product details, industry sector, target market, and business objectives;
 - b. aggregating data from multiple structured and unstructured databases through API integration and web scraping techniques;
 - c. validating and filtering the retrieved data using a specialized data processing unit to eliminate redundancies and inconsistencies;

- 5
- d. processing validated data using an AI-powered analytics engine configured with natural language processing (NLP) and machine learning models;
 - e. generating a structured business report, comprising market analysis, competitor insights, marketing strategies, manufacturing plans, and financial forecasts; and
 - f. encrypting and delivering the final report in secure digital formats to the end-user.
- 10
7. The method as claimed in claim 9, wherein the step of aggregating data further comprises accessing third-party business intelligence platforms via secured API calls to retrieve real-time industry statistics and financial reports.
- 15
8. The method as claimed in claim 9, wherein the step of validating and filtering data further comprises using machine learning algorithms to identify inconsistencies in competitor pricing, customer feedback sentiment, and market trend forecasts.
- 20
9. The method as claimed in claim 9, wherein the step of processing validated data further comprises utilizing a transformer-based AI model to analyze text-based market reports and extract key business insights.
10. The method as claimed in claim 9, wherein the step of expert review and customization further comprises providing role-based access controls to allow administrators, domain experts, and business strategists to refine AI-generated reports collaboratively.

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ABSTRACT

AI-BASED SYSTEM AND A METHOD THEREOF FOR AUTOMATED MARKET RESEARCH AND BUSINESS PLAN GENERATION

The present invention discloses an AI-powered system for conducting automated
5 market research and business plan generation by aggregating data from multiple
structured and unstructured databases. The system comprises a user interface
module for receiving business-related inputs, a data aggregation module that
retrieves information from market research, product, company, and user feedback
databases, and a data validation module that eliminates redundancies and ensures
10 accuracy. The AI processing unit, integrated with NLP and machine learning
models, analyzes the data to generate structured business reports, including
market analysis, strategy recommendations, marketing plans, and financial
forecasts. An expert review module allows human intervention to refine AI-
generated insights, ensuring accuracy and contextual relevance. The security and
15 compliance module ensures encrypted data handling and regulatory compliance.
The invention provides scalable, real-time, and AI-enhanced decision-making
capabilities, optimizing business planning processes while maintaining data
security and expert validation.