Productos para el mejoramiento de capacidades de innovación en las empresas.

Vigilancia tecnológica

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Universidad Antonio Nariño

Programa Administración de Empresas

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NOTA DE ACEPTACIÓN

El trabajo de grado titulado:

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Dedicatoria

Quiero agradecer a Dios por una segunda oportunidad, a mi madre y a mi hermano que por los designios de la vida no pueden compartir este momento conmigo, pero que sin duda alguna fueron el motor de impulso para seguir adelante en los momentos más duros que una época marcada por la pandemia, nos puso en el camino. A mi esposa y a mi hijo por su amor y apoyo incondicional, a todos los docentes que contribuyeron a mi proceso de formación y de manera especial a la profesora Giselle Pinochet por sus conocimientos y generosidad en la transmisión de los mismos.

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RESUMEN EJECUTIVO DE LA PROPUESTA

La propuesta de trabajo de grado consiste en realizar una vigilancia tecnológica sobre el estado de la técnica en herramientas para mejorar las capacidades de innovación en empresas, como insumo para un proyecto de investigación aplicable a pequeñas y medianas empresas (PYMES).

El presente trabajo, que se articula con la línea de investigación Gestión de la organización de la facultad de Ciencias Económicas y Administrativas, define el alcance, objetivos y la metodología a emplear en el proceso de vigilancia tecnológica que se llevará a cabo, teniendo en consideración que la vigilancia tecnológica es una tarea cada vez más utilizada por empresas y equipos de investigación multidisciplinarios como parte de los procesos de inteligencia competitiva. Asimismo, se describe el flujo de trabajo para obtener, recuperar, analizar e informar los resultados obtenidos.

Palabras clave: PYMES, vigilancia tecnológica; capacidades de innovación, estado de la técnica.

ABSTRACT

The degree work proposal consists in carrying out a technological surveillance on the technique status of the tools to improve innovation capacities in companies, as an input for a research project applicable to small and medium-sized enterprises (SMEs).

This work, which is articulated with the Innovation Management research line of the Faculty of Economic and Administrative Sciences, defines the scope, objectives and methodology to be used in the technological surveillance process that will be carried out, taking into consideration Technological surveillance is a task increasingly used by companies and multidisciplinary research teams as part of competitive intelligence processes. Likewise, the workflow to obtain, retrieve, analyze and report the obtained results is described.

Keywords: SMEs, technology watch; innovation capabilities, state of the art.

INTRODUCCIÓN

El desarrollo acelerado de las tecnologías de la información y la globalización ha traído grandes oportunidades de expansión a las pequeñas y medianas empresas, pero a su vez les ha impuesto desafíos en materia de innovación y competitividad, razón por la cual el gobierno nacional ha desarrollado diferentes alianzas estratégicas, programas y herramientas para el apoyo a su desarrollo a través del Sistema Nacional de Mipymes, creado por el artículo 3o de la Ley 905 de 2004, modificado por el artículo 3o de la Ley 590 de 2000**.**

A partir de los apoyos técnicos, financieros y tecnológicos se han ejecutado y desarrollado proyectos tendientes a mejorar la productividad y las capacidades de innovación en las empresas, aspectos sobre los cuales es importante adelantar una vigilancia tecnológica que permita recopilar información útil que pueda ser aplicada a sus procesos, que les permita cerrar las brechas en materia de desarrollo técnico y tecnológico para la creación de nuevos productos y servicios y anticiparse a los cambios constantes del entorno aprovechando oportunidades y respondiendo de manera eficiente a las amenazas.

En el presente trabajo se realizará una vigilancia tecnológica para identificar los diferentes productos, servicios y el estado de la técnica en herramientas para mejorar las capacidades de innovación en las empresas. Se buscarán y revisarán estudios e investigaciones nacionales e internacionales, patentes, servicios de consultoría, de formación y capacitación y posteriormente se categorizará la información para el respectivo análisis de resultados.

1. PLANTEAMIENTO DEL PROBLEMA

Con la globalización y el desarrollo acelerado de las tecnologías de la información, las empresas se ven en la necesidad de innovar para poder ser competitivas en un comercio cada vez más exigente.

La innovación es el motor que impulsa la transformación y el crecimiento no solo de las empresas, sino de la economía. Así mismo repercute significativamente en la optimización de los recursos para la obtención de beneficios económicos, sociales y ambientales, razón por la cual es necesario fortalecer y mejorar las capacidades de innovación en las empresas, para ofrecer nuevos productos y servicios, optimizar los procesos de operación, minimizar sus costos, incrementar la rentabilidad, abrir espacios en el comercio internacional y un mayor posicionamiento o participación en el mercado.

Innovar no es fácil, requiere de inversiones importantes en investigación, desarrollo y tecnología al que no todas las empresas pueden acceder. Un estudio recientemente publicado por la UNAD sobre capacidades innovadoras en micros, pequeñas y medianas empresas (MiPymes) reveló que el 64% de las empresas se pueden clasificar como imitadoras, el 16% como innovadoras y el 20% restante como híbridas entre imitadoras e innovadoras. (Salazar, Vivares, & Naranjo, 2020). Estas cifras denotan la necesidad que existe de mejorar esas capacidades de innovación para que las empresas dejen de imitar y empiecen a crear sus propios productos y servicios.

En este punto es importante indicar que los mayores obstáculos que presentan las Pymes innovadoras colombianas están relacionados con la consecución y capacitación del capital humano (45%), los riesgos asociados a las actividades de innovación (43%), problemas organizacionales y de gestión (40%), problemas con la estructura y tamaño del mercado (38%) y problemas de información relevantes en la innovación (37%) (Ferrer Castellanos, 2015). Estos aspectos plantean un marco regulatorio sobrecargado de protocolos e ineficientes sistemas de gestión poco operativos, que hacen evidente la necesidad de cambio en la forma de generar innovación por parte del sector de las Pymes no solo en Colombia, sino en Latinoamérica.

Considerando que las MiPymes colombianas constituyen más del 90% de las empresas en Colombia, que generan el 80% del empleo y el 35% del PIB, resulta de gran importancia mejorar las capacidades innovación en las empresas para que generen valor agregado en los productos y servicios que se comercializan, con el fin de generar condiciones de competitividad que minimicen la brecha de Colombia frente a los países desarrollados.

El Gobierno Colombiano a través del Ministerio de Tecnologías de la Información y el Ministerio de Ciencias, Tecnología e Innovación ha venido gestionando diferentes programas de fortalecimiento dirigido a Pymes, para incrementar su productividad y fortalecer sus procesos operativos. MinTIC y MinCIT, a través de iNNpulsa Colombia, lideran esta estrategia, que se desarrolla en alianza con las Cámaras de Comercio, gremios y universidades del país, para la mejorar sus capacidades de innovación.

Una de las líneas de acción precisamente tiene que ver con procesos de vigilancia tecnológica para el fortalecimiento de ventajas competitivas, pero en Colombia la vigilancia tecnológica aún se asume como una contingencia mas no como una práctica permanente y constante en las organizaciones, ya que el gerente de la micro y pequeña empresa desconoce los beneficios de este proceso.

Para efectos de lo anterior, en el marco de un proyecto de investigación que se articula con la línea de investigación Gestión de la Innovación de la facultad de Ciencias Económicas y Administrativas, se desarrolla el presente trabajo con el que se busca realizar una vigilancia tecnológica que permita identificar estudios realizados para la mejora de las capacidades de innovación en las empresas, que puedan ser aplicables a sus procesos, con el fin de identificar oportunidades y amenazas, tomar decisiones estratégicas y lograr mejorar la competitividad en las organizaciones que la apliquen.

Así las cosas, la pregunta clave para el desarrollo de este trabajo es: ¿cuál es el estado de la técnica en herramientas para mejorar las capacidades de innovación en las empresas?

2. OBJETIVOS

2.1. Objetivo general

Desarrollar la vigilancia tecnológica sobre el estado de la técnica en herramientas que permitan mejorar las capacidades de innovación en las empresas.

2.2. Objetivos específicos

- Identificar las fuentes de información de estudios relacionados con la mejora de las capacidades de innovación.
- Analizar los resultados de productos patentados
- Analizar los resultados de productos no patentados
- Observar y describir las tendencias en cuanto a mejoras de las capacidades de innovación.

3. JUSTIFICACIÓN

Con la globalización y el desarrollo acelerado de las tecnologías de información y las comunicaciones, los ciclos de vida de los productos y servicios tradicionales son más cortos, exigiendo a las empresas innovar para sobrevivir en un entorno complejo, cada vez más exigente. La economía global ha tenido como objetivo primordial el logro de ventajas competitivas que les permitan a las empresas estar a la vanguardia en mercados cada vez más dinámicos y competitivos.

Actualmente las firmas tienen grandes oportunidades alrededor de mercados globalizados y virtuales, bienes y servicios altamente diversificados, segmentos de mercados cambiantes, calidad de bienes y servicios definidos por los clientes, razón por la cual es importante poseer elementos que permitan diferenciar a la empresa de sus principales competidores, y por el otro, responder adecuadamente a los cambios del entorno.

Uno de los mecanismos para obtener ventajas competitivas, es a través de la innovación. Para ello las empresas no solo deben contar con esas habilidades y destrezas que le permitan, crear, mejorar e innovar, sino que deben trabajar en la mejora de esas capacidades de innovación y una de las formas de hacerlo es aprender a partir de experiencias similares que hayan sido probadas y/o aplicadas y que hoy se encuentran disponibles en internet. Pero también es importante evitar cometer errores, razón por la cual es imprescindible contar con el conocimiento de casos no exitosos, porque de ellos también se aprende.

En este contexto, es importante tomar como referencia a Japón, un país muy innovador y la mayoría de sus innovaciones las realizan emprendedores y pequeñas y medianas empresas (pymes), pero previo al desarrollo de un nuevo producto o una nueva investigación, empiezan con la fase de investigación de lo que ya se ha hecho, destinando importantes recursos a la obtención de información técnica y científica, lo que los hace líderes en vigilancia tecnológica. (Arango Alzate, Tamayo Giraldo, & Fadul Barbosa, 2012).

La norma UNE 166006:2011 define la inteligencia competitiva como "*proceso ético y sistemático de recolección y análisis de información acerca del ambiente de negocios, de los competidores y de la*

propia organización y comunicación de su significado e implicaciones destinada a la toma de decisiones" y la vigilancia tecnológica como *"proceso organizado, selectivo y permanente, de captar información del exterior y de la propia organización sobre ciencia y tecnología, seleccionarla, analizarla, difundirla y comunicarla, para convertirla en conocimiento para tomar decisiones con menor riesgo y poder anticiparse a los cambios"*.

Aunque los términos parecieran ser similares, tienen una connotación diferente, dado que la vigilancia tecnológica permite generar alertas respecto de lo que está pasando y la inteligencia competitiva permite, a partir de la información que se conoce, anticiparse a los cambios, es decir materializar las acciones para el aprovechamiento de las oportunidades. (Carbonell Martínez, 2019).

La vigilancia tecnológica en el ámbito de proyectos científicos y de investigación constituye un servicio continuo de información actualizada sobre las diferentes tecnologías emergentes y las líneas de investigación activas (Metodología para la implantación de sistemas de vigilancia tecnológica y documental: El caso del proyecto INREDIS, 2009), en este orden de ideas suministra información de nuevos productos y servicios, normatividad, patentes, nuevas tecnologías, formas de financiación, etc., por lo que se constituye en una herramienta fundamental para apoyar el proceso de investigación, frente a mejoras en las capacidades de innovación en las pequeñas y medianas empresas, contribuyendo a fortalecer y potenciar sus condiciones de sostenibilidad en el mercado.

En Colombia, por medio de Colciencias, a través del programa de Prospectiva Tecnológica e Industrial se introdujo el componente de vigilancia tecnológica (VT) e inteligencia competitiva (IC), con el fin de potencializar las capacidades nacionales en VT e IC a través de inversión en tecnología y la realización de ejercicios de vigilancia tecnológica en centros de investigación, universidades y sectores económicos. (Arango Alzate, Tamayo Giraldo, & Fadul Barbosa, 2012).

Lo anterior es relevante, porque si bien Internet y las redes sociales permiten acceder de manera ágil a gran cantidad de información, esa cantidad de información debe ser bien administrada y clasificada para no caer en el riesgo de sobreinformación o infoxicación y es aquí donde la realización de una vigilancia

tecnológica es importante como proceso proactivo de investigación que aporte, entre otros, en la búsqueda y evaluación de fuentes de información y documentos; clasificación y priorización de la información para estar al día en todo lo que se publique, opine, patente o comercialice en relación con el estudio objeto de investigación, que para el caso particular, corresponderá a "productos para el mejoramiento de capacidades de innovación en las empresas".

4. MARCO TEORICO

En esta sección se presentan los conceptos que dan sustento teórico al trabajo que se pretende realizar y a continuación se describe cada uno.

4.1.1 Vigilancia Tecnológica

La vigilancia tecnológica es un proceso que guarda un orden lógico y estructurado para captar información interna de una organización, así como de su entorno y a partir de su análisis, permite proponer estrategias para que la organización pueda anticiparse a las oportunidades y amenazas haciéndola más competitiva. (Palop & Vicente, 1999).

La norma UNE: 166006 (Aenor, 2006) define la vigilancia tecnológica como una forma organizada, selectiva y permanente de captar información del exterior sobre tecnología, analizarla y convertirla en conocimiento para tomar decisiones con menor riesgo. En este punto es importante resaltar la importancia de identificar, estructurar y analizar la información para utilizarla con el fin de obtener resultados que agreguen valor.

La vigilancia tecnológica y la inteligencia competitiva son dos actividades que están siendo cada vez más utilizadas alrededor del mundo, pues son muy útiles a la hora de adelantarse a lo que los competidores y el mercado requieren cada día, ofreciendo a las organizaciones la oportunidad de brindar tiempos de respuesta más efectivos. Los dos términos se encuentran íntimamente relacionados, porque siguen el mismo proceso de obtener, analizar, interpretar y finalmente divulgar determinada información, mejorando el posicionamiento de una empresa frente a sus competidores. (Ramirez, Escobar Rua, & Arango Alzate, 2012).

De acuerdo con la (Metodología para la implantación de sistemas de vigilancia tecnológica y documental: El caso del proyecto INREDIS, 2009): la vigilancia tecnológica permite realizar un

proceso metódico de búsqueda, detección, análisis y comunicación de información científica y tecnológica que sirve de ayuda a la toma de decisiones anticipándose a amenazas y oportunidades externas que afecten la estrategia de negocios y de investigación en ciencia y tecnología. INREDIS es el proyecto Interfaces de relación entre el entorno y las personas con discapacidad y por la naturaleza de éste, realiza procesos de vigilancia tecnológica para el desarrollo de tecnologías de base que permitan crear canales de comunicación e interacción entre las personas con algún tipo de discapacidad o de necesidad especial y su entorno. Así mismo, la vigilancia tecnológica les proporciona información muy importante para orientar los proyectos de investigación sobre el particular.

A partir de estas definiciones podemos decir que la vigilancia tecnológica es una importante herramienta para la toma de decisiones, tomando como base el análisis y priorización de la información recolectada porque permite identificar oportunidades y amenazas en determinado entorno.

4.1.2. Capacidades de innovación

La Capacidad de innovación se refiere a la capacidad de respuesta y renovación de las competencias que les permiten a las empresas, no solo adaptarse a los cambios sino anticiparse con respuestas innovadoras. (Teece, Pisano, & Shuen, 1997). Es decir que las capacidades de innovación son esas habilidades propias de las personas y las empresas que les permiten mejorar el desempeño competitivo.

Así mismo (Acosta Prado, Zárate Torres, & Fischer, 2014) indican que la capacidad de innovación supone la habilidad para desarrollar y perfeccionar las rutinas que facilitan la combinación del conocimiento existente y del nuevo conocimiento obtenido para diseminarlo a

través de la organización e incorporarlo en nuevos productos, servicios y/o procesos productivos.

Para (Hidalgo, León Serrano, & Pavón Morate, 2002) las capacidades de innovación constituyen un mecanismo importante para que las empresas puedan ser más competitivas, por cuanto la innovación ofrece varias ventajas estratégicas, tales como la disminución de costos, la diferenciación a través de desarrollo de nuevos productos y servicios y el aumento de la calidad, permitiendo aprovechar las oportunidades latentes en el entorno.

Desde el punto de vista de sus capacidades, las PYMES poseen limitaciones a la hora de innovar. Entre las razones se encuentran la falta de recursos y de know-how tecnológico lo que conlleva a que la innovación se produzca de manera reactiva. Este carácter reactivo y a corto plazo de la innovación dificulta la cooperación con agentes regionales de investigación y desarrollo (I+D). En este sentido cobra importancia la necesidad del fortalecimiento y mejora de las capacidades de innovación.

4.1.3. Estado de la técnica en herramientas

El Estado de la Técnica o Arte Previo hace referencia a todo el material disponible al público por cualquier medio antes de la solicitud de patente o reivindicación de derechos. (Santos Medina, Muñoz Palma, & Becerra, 2007).

El estado de la técnica permite determinar si la invención es “nueva” o si por el contrario ya se conoce y las experiencias obtenidas alrededor de la misma.

Muchos productos no han sido patentados, pero igual existen muchas invenciones que nunca se convirtieron en productos, pero pueden existir antecedentes sobre ellos en alguna parte**.** Esos antecedentes, sea cual sea la forma que adopten, constituyen el estado de la técnica. (Oepm, 2021).

Así las cosas, el estado de la técnica es el procedimiento que toda empresa debe surtir para averiguar si la idea o producto que ellos han desarrollado es novedoso o ya existen invenciones similares. De acuerdo con un estudio realizado por el Instituto Nacional de Propiedad Industrial del Ministerio de Economía, Fomento y Turismo de Chile, es importante realizar una búsqueda del estado de la técnica, porque permite:

1. Evaluar el alcance de los derechos de Propiedad Intelectual existentes para evitar infracciones o violaciones a derechos de autor.
2. Evaluar requisitos de patentabilidad con el fin de tener una mayor certeza que la invención cumplirá con los requisitos de patentabilidad.
3. Buscar el estado de la técnica o estudio tecnológico para planificar actividades de investigación o actividades comerciales.
4. Determinar actualizaciones tecnológicas para estar al corriente de las nuevas tecnologías y avances recientes.

Cuando se pretende comercializar una tecnología, cabe la posibilidad de que una tecnología similar sea propiedad de terceros, por lo tanto, es altamente recomendable realizar una búsqueda cuidadosa del estado de la técnica, para tener margen de maniobra antes de explotar un nuevo producto o proceso. En el caso de un proyecto de investigación y desarrollo, es fundamental realizar un análisis del estado de la técnica, ya que los resultados de estas búsquedas pueden influir en las inversiones del proyecto, que generalmente significan una gran inversión.

El realizar estas búsquedas puede significar el ahorro de grandes sumas de dinero, al detectar las invenciones existentes en el área a investigar se puede obtener información respecto de los potenciales socios o aliados para una posible colaboración.

5. ESTADO DEL ARTE

A continuación, se presentan experiencias extranjeras y nacionales de vigilancia tecnológica en temas de innovación. El análisis de trabajos y artículos nacionales e internacionales, que tienen relación con el tema a desarrollar, permite conocer las metodologías en las que se basaron otros autores para el abordaje del tema:

En el plano internacional, Pérez González & Placer Maruri (2011) en su artículo "Vigilancia tecnológica en pymes industriales del metal: conocimiento, aplicación y medición de sus beneficios" centran su estudio en la Vigilancia tecnológica en pymes industriales del sector metal con un doble objetivo. Por un lado, analizar el grado de conocimiento y aplicación de la Vigilancia Tecnológica, caracterizar cómo realizan los procesos e identificar las barreras a su aplicación y, por otro, evaluar los resultados que se derivan de su aplicación en estas organizaciones.

La investigación se enfocó en pymes del sector industrial dedicadas a la actividad del metal. La metodología contempló una fase cualitativa para mejorar el conocimiento del sector empresarial y mejorar la orientación de la posterior fase cuantitativa. La fase cuantitativa consistió en una entrevista en profundidad y dos sesiones de grupos.

Las sesiones de grupos de discusión se realizaron a partir de una invitación a las empresas a través de la Confederación Española de la Pequeña y Mediana Empresa - CEPYME, haciendo énfasis en los efectos de "la capacidad de innovar". El análisis se realizó mediante un modelo ANOVA (análisis de varianza para comparar múltiples medias).

Placer (2016) En su tesis doctoral "Vigilancia tecnológica y procesos de gestión de la información como factores clave para la innovación en Pymes" se planteó como objetivo analizar

en una muestra de PYMES los efectos que la utilización de la vigilancia tecnológica (VT) o inteligencia competitiva (IC) tiene en distintas variables financieras y no financieras y en segundo lugar, ante la problemática de las limitaciones del software Product Lifecycle Management de la Información (PLM) comercial porque se orienta principalmente hacia las empresas de gran tamaño, aspecto que representa un gran reto para las pequeñas y medianas empresas (PYME), plantea como solución a este problema, que las PYME pueden desarrollar sus propios Product Lifecycle Management de la Información (PLIM) para manejar datos e información a través de los procesos del ciclo de vida del producto. Los resultados de la investigación demuestran que, en efecto, ambas herramientas contribuyen a fortalecer las capacidades de innovación en PYMES. En el artículo se presenta un ejemplo exitoso de un PLIM: el caso de PLIM de Pladomin.

Marín Baquero (2019) en su investigación sobre "La vigilancia tecnológica y la cooperación para el desarrollo de la innovación: una aproximación empírica" realiza un estudio empírico, que permite conocer qué influencia tiene el sistema de vigilancia tecnológica en la cooperación para la innovación y en el desarrollo de nuevos productos para las empresas. Se hizo uso de la técnica PLS (Partial Least Squares) para el análisis de los datos. En este estudio se recogieron los resultados del análisis clúster que diferencian 2 grupos con características dispares formados por 103 empresas con una mayor orientación a identificar nuevas oportunidades tecnológicas para responder a los cambios y 100 empresas con una menor capacidad tecnológica.

Por otro lado, a nivel nacional (Cárdenas & Quintero Sepúlveda, 2018) de la Universidad Pontifica Bolivariana, desarrollaron un estudio "Vigilancia tecnológica fomentando el desarrollo de capacidades innovadoras en Pymes". El objetivo de dicho estudio es proponer una metodología de vigilancia tecnológica que aporte al desarrollo de capacidades de innovación y repercuta en mejorar la competitividad de las Pymes. Para tal efecto, se tomó como población de estudio dos

Pymes que han participado en programas de fomento a la innovación, en el marco del proyecto Programa para la innovación empresarial de MiPymes en Palmira.

Para lograr el objetivo, primero se identificaron algunas metodologías existentes sobre vigilancia tecnológica enfocadas al desarrollo de la innovación y/o competitividad, luego se identificó la vigilancia tecnológica más adecuada de acuerdo con las necesidades propias del contexto empresarial local, para terminar con el desarrollo de una propuesta metodológica basada en vigilancia tecnológica. Se planteó una investigación mixta (cualitativa y cuantitativa) con enfoque descriptivo para contrastar la fase teórica con el contexto empresarial local.

El último caso analizado es el de (Robayo Avilés , Ríos Rueda, & Cucalón Sánchez, 2015) quienes en su estudio abordan la problemática del sector del Calzado en el barrio Restrepo, el cual no se encuentra en un óptimo nivel de competitividad y no se identifica una estrategia o propuesta contundente para lograrlo, así que establecen como objetivo promover el desarrollo tecnológico y competitivo en las pequeñas y medianas empresas de la industria del calzado en el barrio El Restrepo, teniendo como expectativa que el sector logre estar equilibrado frente al mercado externo. El diseño metodológico utilizado es de tipo mixto, la parte cuantitativa para medir el conocimiento que el sector tiene frente a la Vigilancia Tecnológica y cualitativa para determinar y analizar la capacidad de análisis de información y gestión de la innovación de las empresas para competir.

6. METODOLOGÍA

En el presente trabajo se aplica una metodología de investigación con enfoque mixto cualitativo documental que abordará las fases de contextualización, clasificación y categorización de la información que permita identificar el estado de la técnica en herramientas para mejorar las capacidades de innovación en empresas. Por su parte, el aspecto cuantitativo estará presente en el análisis estadístico de la información y tendencias.

6.1. Procedimiento

El método de Vigilancia Tecnológica que se propone realizar se llevará a cabo a través del siguiente procedimiento que consta de siete (7) fases.

6.1.1. Identificación de la necesidad de información:

El primer paso que debe darse para establecer un sistema de vigilancia tecnológica y documental es determinar el campo de actuación, delimitando con absoluta claridad el ámbito de influencia, de tal manera que en la recopilación documental no exista duda sobre la validez de las informaciones seleccionadas.

Para el caso particular el tema objeto de estudio es “Productos para el mejoramiento de capacidades de innovación en las empresas” y para ello se seleccionarán estudios, investigaciones, artículos científicos, patentes, productos no patentados, entre otros.

6.1.2. Selección de fuentes de información:

En función de los objetivos se determinan algunas de las fuentes de información que se utilizarán para extraer la información relevante para cada entorno o ámbito de actuación.

Las fuentes de información identificadas son:

- Para estudios: Scopus, Scielor.org, Research Gate, Google Académico
- Productos patentados: Google Patents
- Productos no patentados: Globant, Deloitte, KPMG, XPossible, Boston Colsunting Group, Cámaras de Comercio en Colombia, Connect, Ruta N, Innpulsa, Universidades, entre otras.

6.1.3. Determinación de los tipos documentales a vigilar

Es importante determinar, los tipos documentales que interesa vigilar para que el informe cuente con los datos que constituyan la base de una información relevante y sólida, útil para su objetivo final. En este sentido se van a recopilar los siguientes tipos documentales introduciendo la información que se indica para cada uno de ellos:

- Estudios o informes sobre mejoras en las capacidades de innovación que hayan sido aplicados, identificando el título, año, un resumen del estudio desarrollado, las palabras claves o indexadas, el objetivo del estudio, una breve descripción de la metodología, el propósito, referencia bibliográfica y el país de aplicación. Es importante poder contar con los artículos objeto de revisión que se hayan seleccionado.
- Productos patentados: se debe identificar la entidad que tiene los derechos, la clasificación internacional, el problema que resuelve, las reivindicaciones, el país y el número de patente.
- Productos no patentados: Aquí se identificarán servicios de consultoría, programas de formación y/o capacitación orientados a las mejoras en capacidades de innovación. Se identificará el tipo de servicio, empresa que lo ofrece, región, país, descripción del servicio ofrecido y el enlace de acceso a la información.

6.1.4. Búsqueda y selección manual o automatizada en fuentes de información

Se determinarán las ecuaciones para realizar búsquedas en las fuentes seleccionadas y se describirán y harán las recomendaciones oportunas sobre las herramientas de búsqueda, seguimiento y captación de información.

La ecuación de búsqueda contiene de manera rigurosa los textos en los que se registran y articulan las palabras precisas para buscar en las diferentes fuentes de información.

6.1.5. Almacenamiento de la información

El almacenamiento de la información se realizará en bases de datos en Excel, acorde con los criterios de información previamente seleccionados. A manera de ejemplo tenemos:

Tabla 1

Base de datos para almacenamiento de información de estudios

Item	Title	Apa Reference	Year	Abstract	Objective	Description	objective	Country

Nota. Fuente: Elaboración propia.

Tabla 2

Base de datos para almacenamiento de información de estudios

Item	Tipo de producto	Entidad que tiene los derechos	Clasificación internacional	Problema que resuelve	Reivindicaciones	País	Patente No

Nota. Fuente: Elaboración propia.

6.1.6 Análisis e interpretación de la información:

Este paso hace referencia al análisis de la información recopilada con el fin de detectar tendencias, novedades y avances.

6.1.7. Producción de informes de la vigilancia tecnológica adelantada

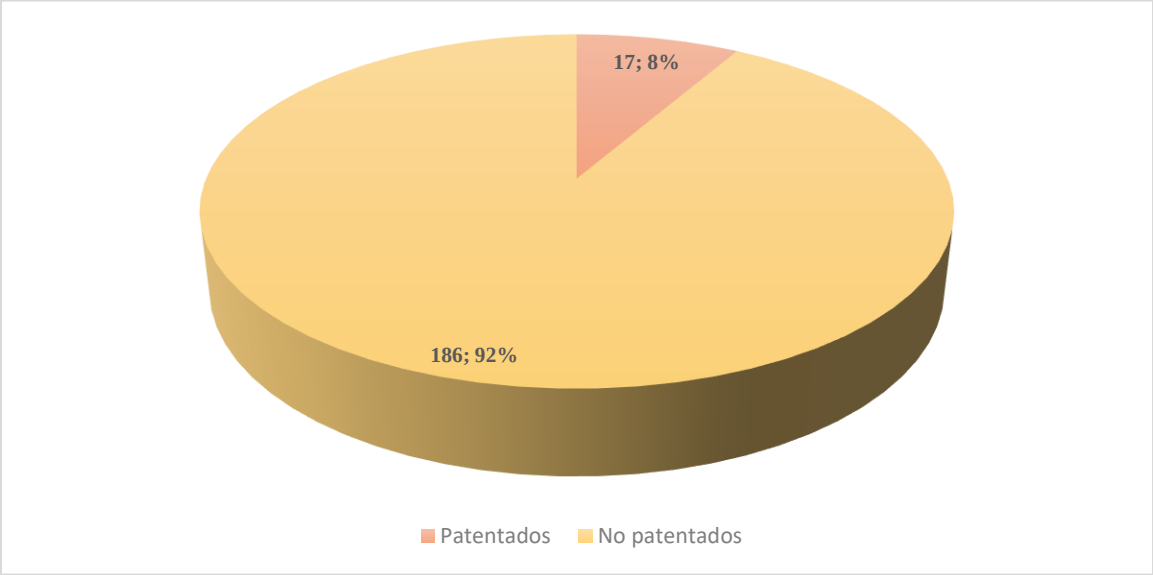
Estos informes se constituyen en herramientas de trabajo al servicio de la toma de decisiones por parte del equipo de investigación.

7. ANÁLISIS DE RESULTADOS

Se realizó la búsqueda de productos patentados (Vér anexo A) y no patentados (Ver anexo B) relacionados con la mejora de las capacidades de innovación en las Pymes, obteniendo la siguiente información:

Figura 1

Productos Patentados y no Patentados



Nota. Elaboración propia

En el análisis se identificaron un total de 203 productos, de los cuales 17 que corresponden al 8% están patentados (Ver anexo A) y 186 que corresponden al 92% son productos no patentados (Ver anexo B). Dentro de los productos no patentados se encuentran los estudios e investigaciones (Ver anexo E), servicios de consultoría (Ver anexo B), servicios de formación y capacitación (Ver anexo C), así como convenios y herramientas disponibles para que las pequeñas y medianas empresas (Ver anexo D) puedan mejorar sus procesos productivos, de comercialización o de internacionalización.

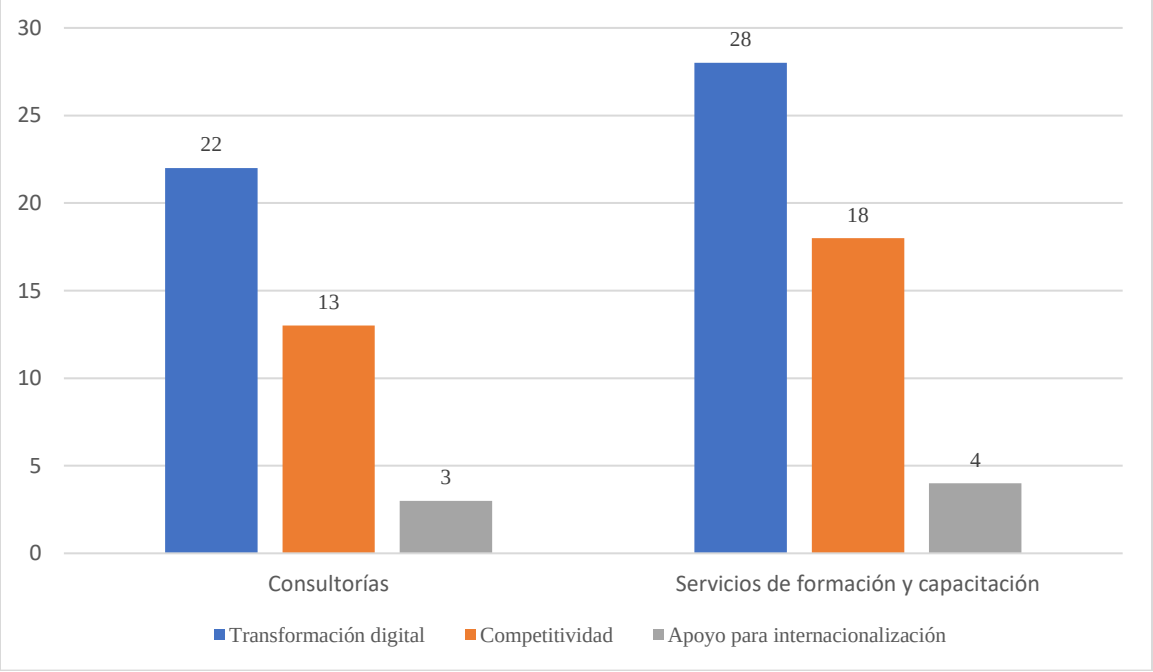
De los 17 productos patentados (Ver anexo A), 7 que equivalen al 41% corresponden a patentes actuales, es decir tramitadas entre el 2016 y el 2020. Llama la atención que ninguna de las patentes consultadas corresponde a Latinoamérica. Por el contrario, el 94% de las patentes son de estados Unidos y el 6% de Canadá.

Así mismo, el 100% de los productos patentados hacen referencia al componente de transformación tecnológica para la mejora en las capacidades de innovación.

A partir de la emergencia derivada de la pandemia por Covid-19, no se registran patentes relacionadas con la mejora de las capacidades de innovación para Pymes.

Figura 2

Productos no Patentados



Nota. Elaboración propia

Tanto en los servicios de consultoría (Ver anexo B) como en los servicios de formación y capacitación (Ver anexo C), hay ejes articuladores comunes para la mejora de las capacidades de innovación, siendo los más relevantes la transformación digital, la competitividad y el apoyo para la internacionalización de las Pymes.

Dentro de los productos no patentados (Ver anexo B) se analizaron 36 empresas dedicadas a consultorías que apuntan al mejoramiento de las capacidades de innovación para Pymes. Del total, 13 de ellas ofrecen servicios gratuitos y 23 ofrecen servicios con costo.

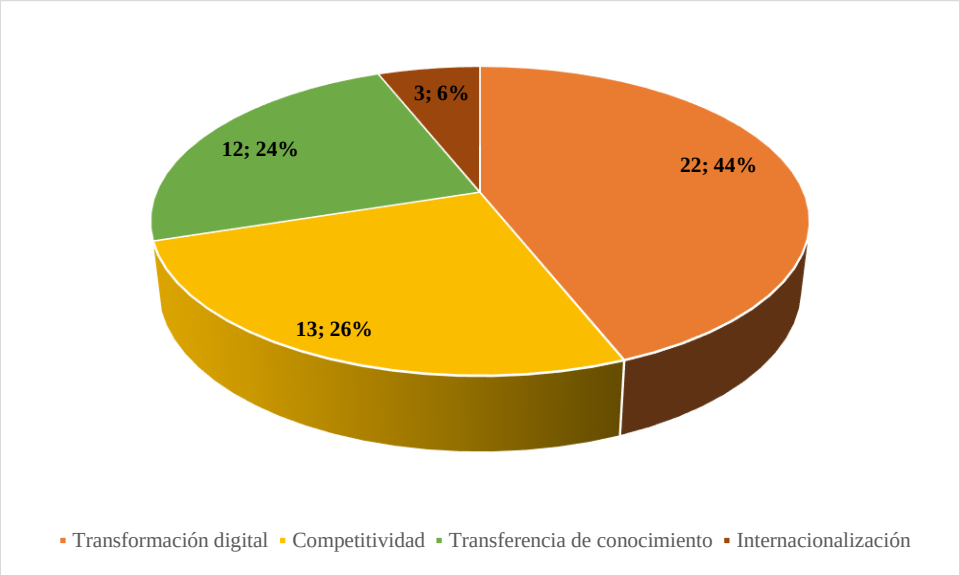
Dentro de las empresas de consultoría que ofrecen servicios gratuitos se encuentra Fábrica SAS, que cuenta con el apoyo del Ministerio de Cultura y la Alcaldía Mayor de Bogotá para el apoyo de empresas del sector cultural y creativo, la Universidad Externado de Colombia que cuenta con un programa que busca promover la gestión socialmente Responsable en las PYMES Colombianas y tiene como propósito hacer de las PYMES empresas de clase mundial, incluyendo criterios internacionales de sostenibilidad como parte de su gestión.

Así mismo se encuentra INNPULSA Colombia que desarrolla y ejecuta el programa MiLAB de Govtech, el cual se define como el ecosistema donde los gobiernos colaboran con Startups y Pymes, que utilizan inteligencia de datos, tecnologías digitales y metodologías innovadoras, para proveer productos y servicios que resuelvan problemáticas públicas.

Es importante mencionar el apoyo de las Cámaras de comercio en los procesos de registro de marca y fortalecimiento empresarial y el aporte de Colsubsidio con el programa XPOSIBLE que ofrece contenidos permanentes sobre sostenibilidad, innovación y productividad y para la vigencia 2022 analizaron 5 macrotendencias de gran impacto a nivel internacional destacando las oportunidades estratégicas a aplicar en materia de innovación.

Figura 3

Principales Temáticas servicios de Consultoría



Nota. Elaboración propia

De las empresas de consultoría analizadas (Ver anexo B), 26 tienen un ámbito de cobertura local y 10 de ellas son de cobertura internacional. Por supuesto las que ofrecen servicios gratuitos todas son de cobertura local.

En relación con los servicios de formación y capacitación (Ver anexo C) se analizaron 56 programas ofrecidos por empresas públicas y privadas, así:

Tabla 3

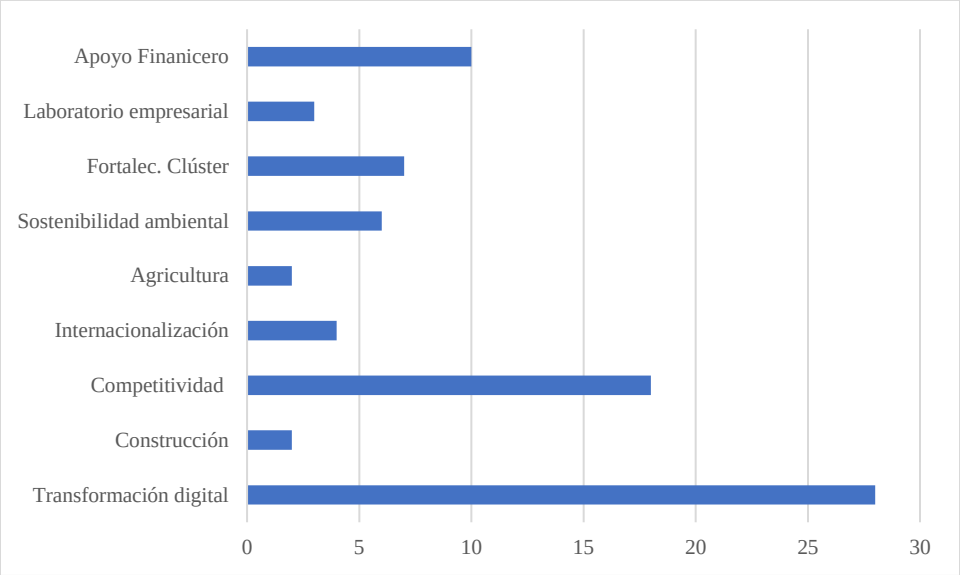
Programas de formación y capacitación

Entidad que los ejecuta	Programas
Cámaras de Comercio	33
Ministerio TIC	10
SENA	5
Universidades	4
Ministerio de Comercio	2
FENALCO	2

Nota. Fuente: Elaboración propia.

Figura 4

Ejes Temáticos de Formación y Capacitación



Nota. Elaboración propia

Las Cámaras de Comercio en asocio con el Ministerio de Tecnologías de la información y las Comunicaciones han desplegado una serie de herramientas tecnológicas para que las empresas implementen o mejoren sus canales de e-commerce o tiendas virtuales para así incrementar sus ventas mediante canales más económicos y fáciles de usar, mecanismos de acceso a capital, vía crédito o mediante el aprovechamiento de oportunidades de la Bolsa de Valores con su plataforma digital a2censo, una herramienta colaborativa de inversión para financiar a emprendimientos y pequeñas y medianas empresas, y conectarlos con las personas que tienen los recursos financieros necesarios para invertir y potenciar proyectos.

También se analizaron 87 estudios realizados (Ver anexo E) para las mejoras de las capacidades de innovación, de los cuales 6 que equivalen al 70% son estudios recientes, es decir realizados entre el 2015 y el 2021, pero solo 2 de ellos fueron aplicados en países de Latinoamérica.

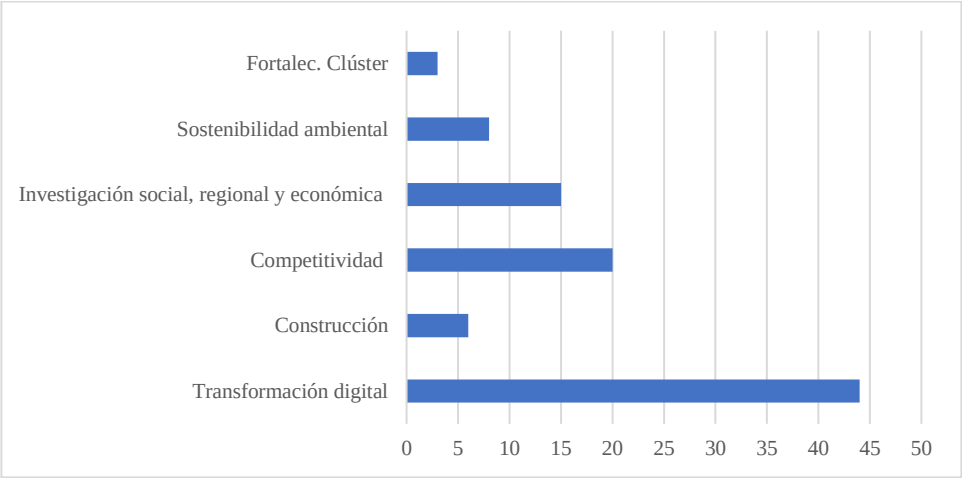
Es importante señalar el gran porcentaje de estudios que corresponden al continente asiático, 57 que equivalen al 65, 51%, comparado con los 20 del continente europeo y los 3 del

continente africano. El país con mayor porcentaje de estudios aplicados a la mejora de las capacidades de innovación, sin duda alguna es China.

A continuación, se detallan los ejes temáticos de los estudios a analizados:

Figura 5

Ejes Temáticos de Estudios Analizados



Nota. Elaboración propia

8. CONCLUSIONES

Al inicio del trabajo de grado se propusieron cuatro (4) objetivos específicos para la obtención del objetivo general, así:

Identificar las fuentes de información de estudios relacionados con la mejora de las capacidades de innovación.

Para la identificación de las fuentes de información fue necesario definir el nivel de tecnicidad y especificidad de la información requerida, priorizando estudios, revistas y artículos especializados, productos patentados y no patentados y, considerando que el enfoque de la vigilancia tecnológica objeto de estudio, es sobre mejoras en capacidades de innovación en las Pymes, se identificaron las empresas y organizaciones públicas y privadas que impulsan o coordinan aspectos relacionados con las pequeñas y medianas empresas en Colombia.

Analizar los resultados de productos patentados

En el análisis se identificaron un total de 203 productos, de los cuales 17 que corresponden al 8% están patentados y 186 que corresponden al 92% son productos no patentados. Esto evidencia un bajo interés por el registro de los derechos de propiedad intelectual, aspecto que las Pymes deben fortalecer para su crecimiento y desarrollo económico y comercial.

Si no se registran los procesos de innovación se corre el riesgo de que la competencia pueda copiar dichos procesos.

Analizar los resultados de productos no patentados

Para el análisis de los productos no patentados se revisaron los cursos de formación y capacitación ofrecidos por Universidades, ONG´s, las Cámaras de Comercio y empresas privada.

Así mismo se analizaron empresas que prestan servicios de consultoría onerosa o gratuita, con cobertura local e internacional. De este análisis se pudo observar que, tanto en los servicios de consultoría como en los servicios de formación y capacitación, hay ejes articuladores comunes para la mejora de las capacidades de innovación, siendo los más relevantes la transformación digital, la competitividad y el apoyo para la internacionalización de las Pymes.

Dentro de los productos no patentados se analizaron 36 empresas dedicadas a consultorías que apuntan al mejoramiento de las capacidades de innovación para Pymes. Del total, 13 de ellas ofrecen servicios gratuitos y 23 ofrecen servicios con costo.

A nivel general, las empresas de consultoría en Colombia, instituciones públicas, privadas y centros de investigación han venido incorporando unidades de vigilancia tecnológica para potencializar los planes estratégicos de diferentes sectores de la economía y de manera especial en las Pymes para que esta herramienta no se utilice solo de forma reactiva, sino que por el contrario lo adopten como un mecanismo permanente para el desarrollo de los objetivos institucionales.

Observar y describir las tendencias en cuanto a mejoras de las capacidades de innovación.

De la lectura de los documentos analizados se pudo observar que la mayoría de los estudios relacionados con mejoras en las capacidades de innovación, involucran el componente de transformación digital.

El tema ambienta también viene ganando protagonismo, no solo desde la óptica de disminuir el desperdicio, sino desde las mismas dinámicas de producción ecoeficiente.

El Gobierno Colombiano a través del Ministerio de Tecnologías de la Información y el Ministerio de Ciencias, Tecnología e Innovación ha venido gestionando diferentes programas de fortalecimiento dirigido a Pymes, para incrementar su productividad y fortalecer sus procesos

operativos. MinTIC y MinCIT, a través de iNNpulsa Colombia, lideran esta estrategia, que se desarrolla en alianza con las Cámaras de Comercio, gremios y universidades del país, para mejorar sus capacidades de innovación.

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9. ANEXOS

Anexo A: Productos patentados - Mejoras en capacidades de innovación

Código internacional	Problema que resuelve	Reivindicaciones	País	Patente no	Publicado	Actual	Latino América	Tecnología
G06Q10/06	This invention relates to a method of determining a measure of a business's potential for innovation as an aid to business management and as a measure of a business's potential to achieve a high return on investment from the business.	1. A computer network based method of measuring innovation capability for use in managing a business or assessing valuation of a business. 2. A method that includes: a) a database of recommendations to improve performance based on existing factors; and b) a program in said central processor that uses the factor scores and the value index to generate, from said database of recommendations, recommendations to the management to improve the innovation capacity of the business.	Estados Unidos	US007584.117 B2	1/09/2009			X
G06Q30/0256	The present invention relates to communication networks for e-Commerce and more particularly to increased visibility during order management in a network-based supply chain environment.	A computer-implemented method, performed by a computer connected to a processor and a network, for a computerized framework manager to supply collaborative planning. Deployment, forecasting, coordinating supply and demand, production planning, reverse inventory management, connectivity protocols, data transfer in multiple languages, common data access language, data integrity test, among others	Estados Unidos	US009922345B 2	20/03/2018	X		X
G06Q50 / 184	A system and methods are provided for managing intellectual property using a blockchain that may include one or more elements that form a comprehensive foundation for an ecosystem for innovation and management of intellectual property.	A method of providing a Merkle-led idea chart stored in a blockchain database, a method of conducting a transactionalized search for partial transparency of intellectual property; A method to create a license royalty smart contract with auditable, automated payment tracking, and more	Estados Unidos	US2018028599 6A1	4/10/2018	X		X
G06Q10 / 0635	This subject matter includes identifying preventive measures to reduce the probability of these factors occurring or identifying countermeasures to successfully minimize possible negative effects on a business or an entity. Evaluation of risk factors with respect to credit, loan or other financial matters is not classified herein.	A computerized system for identifying supply chain risks and generating supply chain charts representing an interconnected network of entities. It also includes: an entity-risk relationship classifier adapted to identify and extract entity-risk relationships from the source data set, the entity-risk relationship classifier comprises a risk tagger adapted to identify in the source data set a set of risk candidates based on the set of risk types; and an entity tagger adapted to identify mentions of entity names in the source data set; wherein the entity-risk relationship classifier maps the identified set of risk types to the identified entity names.	Estados Unidos	US2018019712 8A1	12/07/2018	X		X

Código internacional	Problema que resuelve	Reivindicaciones	País	Patente no	Publicado	Actual	Latino América	Tecnología
G06Q10/0833	It is an engineering, manufacturing, supply chain and logistics operations management platform that can efficiently and effectively configure factors of product development, production, supply chains and logistics operations and dynamically control these factors, supply chain and logistics to optimize performance. The platform will also provide the means to selectively and securely display data related to factors of production, logistics and the supply chain to enable real-time monitoring to support sales, financial management or the after-sales process.	A method to manage the resources of a company, comprising the method: locate, monitor, manage, administer, physical plant, equipment, employees, consultants and contractors in different countries. The end-to-end service reporting system manages the services and operations performed by the physical infrastructure structure in a plurality of the following areas: product innovation, engineering, logistics, and supply chain configuration and performance. The system allows a code or identifier associated with the inventory to be read as the inventory is received and shipped, the code or identifier being one or more of a universal product code, a radio frequency identifier, and an electronic product code; collect and / or store information on the performance of the logistics operation and / or the supply chain based on the inventory information received from the plurality of readers; verify the accuracy of scheduled inventory delivery times; provide estimates of inventory delivery times; identify potential manufacturing and delivery issues; identify the effects of expected and unexpected events on the supply chain and / or logistics performance; and generate recommended changes to one or more relationships between one or more levels in the multilevel model based on the identified effects of expected and unexpected events.	Estados Unidos	US2020006575 9A1	27/02/2020	X		X
G06Q30/0283	A system and method for adaptive commerce is disclosed. Adaptive commerce enables recommendations of products or services based on usage behaviors and commercial contextual information. Commercial contextual information may include the business environment of the recommendation recipient, purchase histories, and product or service attributes. Bundles of products and/or services, or specific product or service configurations may be recommended. Corresponding prices may be determined in accordance with behavioral inferences and commercial contextual information.	A usage function implemented in a processor-based computing device comprising captured usage behaviors, wherein the usage behaviors are associated with one or more users of a computer-implemented system, a cost of production, trading context, context the client's. ER is a method in which an adaptive business recommendation is generated based, at least in part, on a plurality of usage behaviors associated with the one or more users corresponding to a plurality of usage behavior categories and a cost of production	Estados Unidos	USRE43768E1	23/10/2012			X

Código internacional	Problema que resuelve	Reivindicaciones	País	Patente no	Publicado	Actual	Latino América	Tecnología
G06Q10 / 063	It applies to problems related to understanding, conducting, coordinating or optimizing operations or activities within a company. It is a computerized system for applying systematic or scientific analysis, evaluation, or other problem-solving technique to a company's operations to understand operations, improve efficiency, and guide decision-making or management; or to the planning, organization, direction or control of a company,	A method for evaluating the high performance capacity of a consumer goods and services company, comprising: providing a processor operatively coupled to a communication network; providing a database more operably coupled to the processor and accessible through the communication network; coupling an interface to the processor to receive input; the processor establishes a machine-readable memory in said one or more databases, including a multidimensional consumer goods and service industry performance benchmark set comprising multiple key evaluation performance benchmark tables, at least one table benchmark performance benchmark that defines a demand generation platform that includes: a "Basic" performance level that specifies the "Basic" performance evaluation criteria; a "competitive" performance level specifying the criteria for evaluating "competitive" performance; a 'market leading' performance level specifying the 'market leading'	Estados Unidos	US8214238B1	3/07/2012			X
G06Q40/02	The present invention relates to a data processing system that measures performance in creating and realizing value by a business enterprise based on past and anticipated future events. More particularly, the present invention relates to a data processing system and method that supports the provision of real time benchmarking through a network of benchmarking service providers.	A computer-implemented method of providing real-time benchmarking information related to the performance of a business enterprise, includes information related to the value creation and realization performance of a business enterprise. A method in which the benchmarking information is continuously grouped and updated and the response to the request includes providing relevant benchmarking information from the continuously grouped information.	Canadá	US8660886B1	25/02/2014			X
G06Q10/10	The present invention relates generally to management training simulations (MTSs), which are computer programs or board games that help managers learn to manage and to understand business. More particularly, the present invention involves a computerized management training method and system that effectively teaches the development and use of knowledge and provides training in managing strategy, risk, innovation, and core competencies, as well as analyzing and correcting a manager's decision making processes and identifying a manager's unique judgmental biases and errors. It provides tailored, individualized training in managerial judgment and decision making.	A method of developing a user's decision-making skills through practice in a simulated environment, comprising the steps of: a) define a simulated business situation that will be influenced by the user, including a set of objects that are represented by a representation of attribute characteristics; b) present information on the current state of the simulation to the user; c) obtain user decisions; d) evaluating at least one object design using an interactive value function, where the decisions obtained determine at least partially the object designs to be evaluated; e) update the simulation with the results of the evaluation step; and f) selectively repeat steps b) to e). A method of diagnosing a user's cognitive focus when responding to a design task presented on a computer, comprising all steps	Estados Unidos	US7349838B2	25/03/2008			X

Código internacional	Problema que resuelve	Reivindicaciones	País	Patente no	Publicado	Actual	Latino América	Tecnología
G06Q30 / 02	The invention provides a central, portal through which employees can make suggestions to a company and through which the company can enter all corporate development solicitations. The portal receives innovative suggestions that are then incorporated into one or more central databases, e.g. one database is provided for internal ideas and a separate database is provided for external solicitations	An apparatus for receiving and processing suggestions for a company, An apparatus for receiving and processing suggestions, comprising: A central database in which these suggestions are classified into keywords. A dialogue based on a key page, An integrated network-based application, among others	Estados unidos	USOO696.1756 B1	1/11/2005			X
G06Q10/06	The present invention is in the field of telecommunication encompassing all existing sorts of interaction multimedia technology, and pertains more particularly to methods and apparatus for creating specialized multimedia-threaded dialogs within a multimedia communication-center.	In a multimedia call center (MMCC) supporting multiple channels and forms of communication and storing call center transactions in a data repository, a threading software application, comprising, conducts data research	Estados unidos	USOO6167395 A	26/12/2000			X
G06N5 / 00	The topic innovation is related to systems and / or methods that facilitate the implementation of data access within an environment based on a role with at least one defined right. A role component can enforce access to data within an environment based on a role assigned to an entity. In other words, the role component can allow seamless data interaction, distribution and access according to the role assigned to an entity within the environment. The role can be indicative of a position or status associated with the entity within the environment. In general, the role can correspond to a position or status with correlated rules, rights or privileges that can be used within the environment for various entities and / or users. The role component can further allow multiple users or entities to share or log in to a role for seamless data access, sharing, and / or distribution.	A system that facilitates data management within an environment to identify at least one position to automatically generate the role-based model, which is assigned to at least one user within the environment. A computer-implemented method that facilitates the distribution of data within an environment evenly, That facilitates the improvement of data distribution	Estados unidos	USOO7962426 B2	14/96/2011			X
G06Q30 / 02	The present invention relates generally to product and packaging development, and, more particularly, to developing a product design strategy to meet the expectations of customers.	A system that uses at least one electronic computing device to provide an address to develop at least one of a product, a product package, and a service, To provide a direction to develop at least one of a product, a product package, and a service	Estados unidos	US007567917B 2	28/07/2009			X
H04N21 / 47	For convenience and clarity, unicast as used in this document refers to sending information packets to a single destination. While such transmissions can be picked up by multiple receivers, only the addressed receiver digests the data. Physically, messages are routed only through the links in a network necessary to achieve delivery, limiting the number of devices on the network that actually receive the messages to a minimum. Unicast allows a single user to personalize data reception on the fly. Web browsing is a particular streamed media clip is an example of unicast.	A method of selectively receiving the broadcast of one or more content items associated with a service to provide a unicast or multicast user experience, Set of codes to make a computer detect a feature of a service An apparatus for selectively receiving broadcast of one or more content items associated with a service to provide a user experience A method of broadcasting a service to provide a unicast or multicast user experience A non-transitory computer-readable medium Device for broadcasting one or more content items	Estados unidos	USOO8443390 B2	14/05/2013			X

Código internacional	Problema que resuelve	Reivindicaciones	País	Patente no	Publicado	Actual	Latino América	Tecnología
		associated with a service to provide a unicast or multicast user experience						
G06F17 / 30716	A system and a method, generally referred to as a system, can be related to providing an interface for innovation collaborations, and more particularly, but not exclusively, to providing an interface to enabling collaboration innovation processes within an organization. The principles described herein can be incorporated in many different ways.	A method to provide an interface for innovation collaborations, A method of providing an interface to display a graphical representation of associated elements A system to provide an interface for collaboration innovation	Estados unidos	US0092.98815 B2	29/03/2016	X		X
G06Q30 / 0276	A novel and useful system to advertise, configure, produce, offer and deliver information, media, products and / or services that are appropriate to the context of a specific individual, group or organization	A non-transient, computer-readable storage device encoded with a computer program product A system comprising: one or more computers; and one or more data storage devices that have instructions stored therein	Estados unidos	US 2016O196587A 1	7/07/2016	X		X
G06Q10 / 063	In one aspect, the present invention provides a system implemented in a computer network that allows platform clients to: (A) access valuable applications from the cloud, (B) store data in the cloud, (C) use the applications and data for the purpose of completing business processes, and (D) automatically receive an analysis of business processes, or suggestions regarding business processes, that users can use to improve the business, operations or practices of the platform client	A computer system for generating suggestions integrated into commercial applications A computer-implemented method of generating suggestions embedded in business applications	Estados unidos	US009971979B 2	15/05/2018	X		X

Anexo B. Productos no patentados -Servicios de consultoría en mejoras de capacidades de innovación

Ítem	Empresa / entidad que la ofrece	Región /País	Descripción del servicio	Observaciones	Link	Gratuito (G) Oneroso (O)	Temáticas transformación digital (TD) competitividad (COMP) transferencia de conocimiento (TC) internacionalización (INT)	Vigentes	Cobertura
1	GLOBANT	Buenos Aires, Reino Unido, Estados Unidos	Consultoría: Fomentan y desarrollan su propia innovación, a través del desarrollo de productos basados en IA para reinventar los aspectos clave de las organizaciones.	El Process Optimization Studio ofrece soluciones que les permiten a las compañías ser más eficientes, innovadoras y ágiles. Globant es una compañía que cotiza en la Bolsa de Nueva York (NYSE), con más de 8.300 empleados que trabajan en 14 países diferentes. Su cartera de clientes abarca desde gigantes como Electronic Arts., Coca Cola y LinkedIn, hasta otras empresas innovadoras como Google y NatGeo.	https://www.globant.com/es/our-services/augmented-accelerators/navigate	O	TD, INT	X	Internacional
2	DELOITTE	Sede: Nueva York (Estados Unidos) y Londres (Reino Unido) y presencia a través de consultores en 150 países	Consultoría: **Core Business Operations** La tecnología no se detiene. Se necesitan enfoques innovadores para transformar, modernizar y ejecutar plataformas tecnológicas existentes. La clave es saber cuándo aprovechar las nuevas tecnologías para impulsar mejoras de productos, servicios y mejorar el rendimiento financiero. **Strategy, Analytics and M&A** Obtener resultados y continuar creciendo exige contar con un plan estratégico e insights más inteligentes. Las soluciones que usted implemente hoy le ayudará a preparar el camino para el éxito de mañana.	A través de una combinación de estrategia, ciencias sociales y tecnología, aplican el diseño a cada paso de la cadena de valor de las empresas para desenterrar oportunidades y estimular el continuo crecimiento. Ayudan a las empresas a lograr resultados destacables en tres aspectos importantes: Implementar estrategias de innovación rompedoras que fijen el objetivo de la organización. Diseñar, construir y lanzar nuevas innovaciones para lograr ese objetivo, y Convertirse en mejores innovadores a través de procesos ágiles, un profundo estudio de la competencia y diversas combinaciones de habilidades y alianzas comerciales	https://www2.deloitte.com/co/es.html	O	TD		Internacional
3	BOSTON CONSULTING GROUP	Estados Unidos	BCG es una multinacional líder en consultoría de gestión que aporta soluciones innovadoras, integrando tecnología y diseño, competencias corporativas y digitales, y sentido del negocio. Consultoría estratégica global	Prestan servicios de consultoría y asesoría para ayudar a las organizaciones a realizar los cambios necesarios para aprovechar la ventaja competitiva y ganar siempre	https://www.bcg.com	O	TD	X	Internacional
4	PRIME BUSINESS	Colombia y México	Consultoría y acompañamiento: Planeación estratégica, gestión del cambio, endomarketing, modelo de gestión de servicios, modelos organizacionales de talento humano.	Brindan a las organizaciones herramientas metodológicas prácticas para realizar una planeación estratégica y táctica, basada en la metodología de Proyectos a nivel: corporativo, funcional y operativo; apalancada en el seguimiento de los indicadores de gestión, utilizando elementos de innovación y haciendo seguimiento con acompañamiento.	https://prime-consultores.com/	O	COMP	X	Internacional

Ítem	Empresa / entidad que la ofrece	Región /País	Descripción del servicio	Observaciones	Link	Gratuito (G) Oneroso (O)	Temáticas transformación digital (TD) competitividad (COMP) transferencia de conocimiento (TC) internacionalización (INT)	Vigentes	Cobertura
5	CÁMARA DE COMERCIO DE BOGOTÁ	Colombia /Bogotá	Consultoría y acompañamiento para la obtención del sello de buenas prácticas de innovación. INNOVALAB: Espacio para que las empresas tengan la posibilidad de compartir su conocimiento y experiencias innovadoras para inspirar y crear nuevas oportunidades.	Si una empresa cuenta con un sistema de gestión de innovación implementado, puede acceder al acompañamiento de un consultor de innovación de la Cámara de Comercio de Bogotá, para identificar el nivel de madurez de su sistema, definir un plan de trabajo e implementar preauditorias de preparación para obtener el Sello de Buenas Prácticas de Innovación.	https://www.ccb.org.co/Innovalab/Sello-de-Buenas-Practicas-de-Innovacion	O	TC	X	Local
6	RUTA N	Colombia /Medellín	Consultoría para atraer talento, capital y empresas globales a la ciudad de Medellín; desarrollar y fortalecer el tejido empresarial innovador y emprendedor; y generar soluciones para los retos de ciudad.	Presta acompañamiento principalmente a iniciativas y empresas basadas en la transferencia de conocimiento y en la tecnología, preferiblemente de los sectores energía, salud y tecnologías de la información y la comunicación.	https://www.rutanmedellin.org/es/nosotros/ruta-n/sobre-nosotros	O	TD Y TC	X	Local
7	CINTEL	Colombia /Bogotá	Consultoría que aumenta la competitividad de miembros, aliados y clientes, mediante la colaboración y la innovación de tecnologías digitales, incorporándolas de manera exitosa. Lidera diversas iniciativas enfocadas a dinamizar la industria y la apropiación social de la tecnología. Organiza el Congreso Internacional de TIC - ANDICOM y el Foro 3C.	Es considerada la entidad con mayor experiencia en proyectos de innovación y desarrollo tecnológico del sector TIC en Colombia. Contribuye a incrementar la competitividad y eficiencia mediante la ejecución de proyectos exitosos e innovadores de uso y apropiación de TIC.	https://cintel.co/acerca-de-nosotros/	O	TD	X	Local
8	BOREALIS	Colombia /Bogotá	Consultoría que acelera y transforma la innovación en las organizaciones latinoamericanas, por medio del desarrollo de ecosistemas de innovación donde se articulan la estrategia, los sistemas de gestión, la innovación abierta y el desarrollo de capacidades y proyectos de innovación.	Presta el servicio de Innovación expertos en facilitar y co-crear soluciones para los retos de negocios. Ayuda a identificar las oportunidades en el mercado, prepara la organización para enfrentar los retos de innovación y materializar resultados.	https://www.borealis.com.co/nosotros	O		X	Local
9	KLU INNOVACIÓN	Colombia /Bogotá	Consultoría para establecer la estrategia de innovación, balancean exploración con ejecución, conectan intencionalmente las marcas y los negocios con las personas a través de iniciativas de innovación.	Identifican tres grandes razones por las cuales la innovación en sus diferentes tipos y escalas cobran relevancia en la economía y en la cotidianidad de las personas y las organizaciones.	http://www.kludiseno.com/	O	TD	X	Local

Ítem	Empresa / entidad que la ofrece	Región /País	Descripción del servicio	Observaciones	Link	Gratuito (G) Oneroso (O)	Temáticas transformación digital (TD) competitividad (COMP) transferencia de conocimiento (TC) internacionalización (INT)	Vigentes	Cobertura
10	INVENTTA	Colombia, Lima y Campinas	Consultoría para gestión estratégica de la innovación, transferencia de tecnología y gestión de recursos financieros para proyectos de I+D. Cuentan con un talentoso y multidisciplinario equipo de especialistas comprometidos con la solución de los problemas, quienes combinan diversas y exitosas metodologías de innovación para desarrollar soluciones a la medida con visiones amplias, integrales y sistémicas	Trabaja con diferentes actores del Sistema de Ciencia y Tecnología del país, tales como universidades, empresas pequeñas, medianas y grandes, gremios e instituciones del estado a nivel local y nacional que facilita la labor de articuladores y conectores	https://inventta.co/quienes-somos/	O	TD	X	Internacional
11	SOLVE NEXT	Colombia, Estados Unidos y Costa Rica	Consultoría de innovación estratégica que cree en el poder ilimitado del equipo para inventar el futuro.	Equipan directivos, gerentes y coordinadores con los marcos de referencia, herramientas y técnicas que necesitan para convertir sus equipos de empleados en intra-emprendedores portadores del cambio. Ayudando a aplicar conceptos como: Imaginar. Incubar. Acelerar. Operar. Crecer. Elevar. Liderar la innovación, el crecimiento y el cambio, resolviendo problemas difíciles. Descubriendo y capturando nuevas oportunidades.	https://www.solvenext.lat/nosotros	O	TD Y TC	X	Internacional
12	S2A CONSULTING	Colombia /Bogotá	Consultoría de un equipo de consultores con trayectoria en dirección de empresas, Business Intelligence y experiencia en metodologías actuales para el desarrollo estratégico de los negocios e innovación.	Generan prosperidad para nuestra sociedad, ayudando al desarrollo empresarial. Acompañan a las empresas para encontrar y capturar oportunidades de crecimiento en sus mercados, trabajando con sus equipos para que incorporen procesos de pensamiento estratégico y uso de nuevas herramientas de gestión.	https://www.s2aconsultants.com/contact/	O	TD Y TC	X	Internacional
13	UNIVERSIDAD JORGE TADEO LOZANO	Colombia /Bogotá	Programa de consultoría con el fin de fortalecer la cultura y los servicios de innovación para contribuir a la productividad de las MiPymes en Cundinamarca, la Gobernación de ese departamento, Connect Bogotá Región e INNpulsa Colombia. Mediante recursos del Sistema Nacional de Regalías, crearon los Bonos Empresariales de Innovación que beneficiarán a cerca de 120 empresas de las provincias de Sabana Occidente, Sabana Centro, Soacha y Sumapaz.	Actualmente, la Universidad ofrece a estas empresas el servicio integral de desarrollo de producto, que empieza desde el análisis de mercado hasta el desarrollo y pruebas del producto.	https://www.utadeo.edu.co/es/noticia/destacadas/home/1/consultoria-de-utadeo-fomento-la-innovacion-en-pymes-de-cundinamarca	O	TC	X	Local

Ítem	Empresa / entidad que la ofrece	Región /País	Descripción del servicio	Observaciones	Link	Gratuito (G) Oneroso (O)	Temáticas transformación digital (TD) competitividad (COMP) transferencia de conocimiento (TC) internacionalización (INT)	Vigentes	Cobertura
14	FI GROUP	Colombia, Alemania, Bélgica, USA, Portugal, España, Chile, Canadá, Italia, Japón, Brasil	Asesoramiento hacia las empresas en la gestión de la financiación de su I+D+i, mediante el diseño y la implementación de acciones cuyo objetivo consiste en potenciar el desarrollo tecnológico y económico de las mismas. Estas acciones, focalizadas en el tratamiento integral de los Incentivos fiscales por I+D+i y la gestión de convocatorias de ayudas y subvenciones públicas, redundan en una mejora de la cuenta de resultados de las empresas.	Se preocupan por tener un enfoque 100% a cliente, trabajan para convertirse en un partner estratégico en la gestión de la financiación de la I+D+i, desde la gestación de la idea de proyecto hasta su comercialización. La presencia internacional es uno de los aspectos clave en la estrategia de la empresa, esto permite prestar el acompañamiento en su desarrollo y ofrecer un servicio de asesoramiento fiscal adaptado a cada país y a sus necesidades.	https://co.fi-group.com/consultoria-financiacion-gestion-innovacion-i-d/	O	TD, INT	X	Internacional
15	UNIVERSIDAD EXTERNADO DE COLOMBIA	Colombia /Bogotá	Programa que busca promover la gestión socialmente Responsable en las PYMES colombianas. Tienen como propósito hacer de las Pymes empresas de clase mundial. Incluir criterios internacionales de sostenibilidad como parte de su gestión, diseñar acciones que contribuyan al logro de la estrategia corporativa.	1.Reconocer oportunidades de mejora. 2. Asesoría y acompañamiento de expertos. 3. Participación sin costo. 4. Implementar acciones a corto plazo. 5. Lograr ser una empresa más competitiva, productiva y con menos riesgos.	https://www.uexternado.edu.co/administracion-de-empresas/asesoria-y-consultoria-para-pymes/programa-de-sostenibilidad-corporativa/	G	COMP, INT	X	Local
16	EY BUILDING A BETTER WORKING WORLD	Colombia /Medellín, Bogotá, Barranquilla, Cali	Transformar los negocios a través del poder de las personas, la tecnología y la innovación, ayuda a los clientes a crear valor a largo plazo para los stakeholders. Habilitados por los datos y la tecnología, sus servicios y soluciones brindan confianza a través de la garantía y ayudan a los clientes a transformarse, crecer y operar.	Están reformulando sus negocios para adaptarse a un nuevo panorama, innovando su modelo de negocio, elevando la experiencia del cliente y encontrando nuevas formas de aprovechar los datos y la tecnología. Esto exige un cuidadoso equilibrio: mantener el rendimiento al tiempo que se invierte en las habilidades, tecnologías y recursos para acelerar el crecimiento y crear nuevas oportunidades.	https://www.ey.com/es_co	O	TD	X	Local
17	EPRISMA DESIGN	Colombia	Ofrecen programas a nivel nacional como generadores del cambio por ayudar a pequeñas y medianas empresas a alcanzar la transformación con procesos de innovación y resultados sostenible y su objetivo es Evaluar, diseñar e implementar diversos métodos e instrumentos que ayuden al desarrollo de la competitividad empresarial, para fortalecer el crecimiento de las empresas a través de procesos innovadores.	Descubren el enfoque de las empresas para guiar el proceso de manera acertada contando con Innovacion para Clúster.	https://www.eprismadesign.com/lo-que-hacemos/	O	TC	X	Local

Ítem	Empresa / entidad que la ofrece	Región /País	Descripción del servicio	Observaciones	Link	Gratuito (G) Oneroso (O)	Temáticas transformación digital (TD) competitividad (COMP) transferencia de conocimiento (TC) internacionalización (INT)	Vigentes	Cobertura
18	RSM BPO CONSULTING SAS	Colombia/Bogotá, Barranquilla, Bucaramanga, Medellín, Cali	Ofrecen un programa con una serie de servicios en innovación, orientados a apoyar a las empresas a transformarse y llegar al siguiente nivel, tanto a nivel interno (procesos, sistema de gestión, gobierno de la innovación, estrategia), como a nivel externo (diseño de nuevos productos/servicios, modelos de negocio, identificación de tendencias, vigilancia tecnológica).	Consideran la Innovación como un elemento fundamental para el desarrollo de los negocios, buscando permanentemente nuevas formas de generar valor en todas las acciones que impactan a los colaboradores, clientes, accionistas y demás actores que viabilizan la ejecución de la filosofía de trabajo: "El poder de ser comprendido." Buscan que la innovación sea parte de la cultura de trabajo de todos los colaboradores y abren oportunidades a clientes y aliados para participar en las iniciativas de innovación en búsqueda de más y mejores formas de satisfacer las necesidades del mercado objetivo.	https://www.rsm.global/colombia/es/sobre-nosotros	O	COMP	X	Local
19	EF VENTURES	Colombia/Bogotá	Para las empresas medianas que quieren adoptar nuevos modelos de gestión o inyectar agilidad e innovación en sus procesos, ofrecen consultoría ágil, práctica y efectiva en un modelo de intervenciones cortas, en donde la compensación depende de los resultados que obtengan de manera conjunta	Acompañan de forma, estructurada, ágil e integral a los emprendimientos y empresas que buscan crecer exponencialmente, a través de tecnología, modelos y experiencias no tradicionales, aportando valor en cada una de las interacciones, logrando resultados diferentes y cuantificables.	https://www.e-f.co/	O	TD	X	Local
20	PUNTO ESTRATEGICO	Colombia/Barranquilla	Impulsan la competitividad de las empresas de la región caribe gestionando el desarrollo tecnológico y la innovación.	Atienden requerimientos empresariales que se presentan en todas las áreas que están conectadas con los procesos de innovación. Cuando se despliega una estrategia de innovación, se activan necesidades específicas que soportan su implementación o salida al mercado, allí esta empresa contribuye para construir propuestas de trabajo que faciliten el alcance de ese objetivo.	https://puntoestrategico.com.co/consultoria/	O	COMP	X	Local
21	DE MIS MANOS	Colombia/Medellín	Trabaja por el desarrollo y fortalecimiento de las personas emprendedoras y empresarias colombianas mediante capacitación, asesoría y acompañamiento en lo humano, empresarial, técnico y comercial para contribuir al mejoramiento de su calidad de vida y la de sus familias.	Ofrecen paquetes para acompañamiento integral de 3 áreas: Desarrollo Empresarial Diseño e Innovación Comercialización	https://demismanos.org/paquetes-empresariales/	O	TC	X	Local

Ítem	Empresa / entidad que la ofrece	Región /País	Descripción del servicio	Observaciones	Link	Gratuito (G) Oneroso (O)	Temáticas transformación digital (TD) competitividad (COMP) transferencia de conocimiento (TC) internacionalización (INT)	Vigentes	Cobertura
22	FABRICCA SAS	Colombia/ Bogota	Se enfoca en el fortalecimiento de equipos de trabajo de creativos, consolidándolos y haciéndolos conscientes de sus capacidades y falencias, lo que permite perfeccionar sus creaciones y contenidos para el disfrute de sus públicos y del mercado de su calidad de vida y la de sus familias.	Cuenta con el apoyo del Ministerio de Cultura y la Alcaldía Mayor de Bogotá y está dirigido al sector cultural y las industrias creativas para potenciar las capacidades humanas y las dinámicas de los equipos.	https://www.fabricca.co/	G	TC	X	Local
23	ASOCIADOS CD&IASOCIADOS CD&I	Colombia/ Bogotá, Guatemala, Toronto, Barcelona, Munich, Xiamen	Colaboran con directores de empresas y emprendedores para mejorar sus resultados, desarrollando nuevos productos, servicios, marcas, estrategias y espacios dando vida a ideas audaces.	Conceptualizan y proponen soluciones completas abordando veinticinco variables, con el objetivo de lograr innovaciones que aumenten el conocimiento, ganen reconocimiento y beneficien al mayor número de personas posible, todo ello siendo altamente rentables para los clientes.	https://cdiassoci.com/services/	O	COMP	X	Internacional
24	SURICATA LABS	Colombia/ Bucaramanga, Medellín	Crean, desarrollan y operan programas de emprendimiento digital y fortalecimiento empresarial, y acompañan a los empresarios en el desarrollo de nuevos negocios y la transformación de aquellos ya existentes mediante metodologías de innovación y el uso de la tecnología.	Brindan acompañamiento intensivo a empresas para el uso de herramientas que permitan diferenciarse en el mercado, innovar y hacer crecer su negocio. Acompañan a empresas que ya tienen productos y canales digitales, en su fortalecimiento y optimización para progresar como negocio.	https://suricatalabs.com/	O	COMP	X	Local
25	KPMG	Sede: Colombia y presencia a través de consultores en 147 países	Prestan servicios de consultoría para Integrar soluciones innovadoras con profundo conocimiento de las industrias y el mercado	Consultorías en iniciativa para reconfiguración empresarial, eficiencia operaciones financieras, robotic process automation RPA, excelencia operativa, estrategia, supply chain	https://home.kpmg/co/es/home/services/advisory.html	O	TD	X	Internacional
26	COLSUBSIDIO / XPOSIBLE	Colombia	Es la comunidad empresarial de Colsubsidio que promueve acciones de sostenibilidad y productividad en el país, brindándoles a sus miembros, herramientas para gestionarse desde lo social, ambiental y económico. Ofrecen servicios de transmisión de conocimiento, la conexión a través de alianzas y el reconocimiento de las mejores prácticas para transformar el ecosistema de negocios en Colombia.	Ofrecen contenidos permanentes sobre sostenibilidad, innovación y productividad. Para la vigencia 2022 analizaron 5 macrotendencias de gran impacto destacando las oportunidades estratégicas a aplicar en innovación.	https://www.xposible.com/	G	TD Y TC	X	Local

Ítem	Empresa / entidad que la ofrece	Región /País	Descripción del servicio	Observaciones	Link	Gratuito (G) Oneroso (O)	Temáticas transformación digital (TD) competitividad (COMP) transferencia de conocimiento (TC) internacionalización (INT)	Vigentes	Cobertura
27	CÁMARA DE COMERCIO DE MEDELLÍN	Colombia /Medellín	Consultoría gratuita para el registro de marca y fortalecimiento empresarial	Presta el servicio de consultoría y acompañamiento para el registro de la marca con el fin de obtener la propiedad y los derechos sobre las letras, símbolos y/o figuras que identifican un producto o servicio, y se hace ante la Superintendencia de Industria y Comercio.	https://www.camaramedellin.com.co/quiero-un-servicio-para-mi-empresa/consultoria/registro-de-marca	G	COMP	X	Local
28	10XTHINKING	Colombia /Medellín	Consultoría en estrategias de crecimiento, desarrollo e instalación de capacidades de innovación a través de sistemas de innovación, emprendimiento corporativo, excelencia operacional, vigilancia tecnológica y administración de portafolio de proyectos de Ciencia, Tecnología e innovación.	Acompaña y desarrolla las capacidades de innovación de las organizaciones que pretenden lograr resultados más allá de sus límites. Con esta filosofía buscan que los equipos desplegados para atender las necesidades tengan bien interiorizado el método a implementar y representen los valores corporativos.	https://10xthinking.com.co/	G	TD Y TC	X	Local
29	INNPULSA COLOMBIA MiLAB	Colombia /Bogotá	Busca acelerar la transformación digital del Gobierno Nacional conectándolo, a través de estrategias de colaboración e innovación abierta, con emprendedores y pymes que hacen uso de tecnologías exponenciales y metodologías innovadoras, para promover mejoras en la eficiencia del Estado y robustecer su infraestructura digital. Su principal función consiste en caracterizar y conectar desafíos públicos con emprendedores del ecosistema de innovación del sector privado, con el fin de fortalecer respuestas innovadoras.	Se ha implementado para responder a los retos de la administración pública está dividida en varios pasos: inicio, caracterización, conexión, finalización. Durante el inicio se busca conocer a la entidad madrina del reto y alinear las expectativas y roles en cuanto al reto. Convocatoria para entidades públicas con retos de innovación pública y transformación digital. Apoya Mintic	https://innpulsacolombia.com/milab/nosotros	G	COMP	X	Local
30	PONTIFICIA UNIVERSIDAD JAVERIANA	Colombia /Bogotá	Acompañan a las organizaciones en la estructuración, postulación e implementación de proyectos de Investigación aplicada, desarrollo tecnológico o de innovación con empresas, gremios, ONG's, entidades públicas, entre otras. Para ello trabajan de forma conjunta con sus grupos de investigación en la formulación de este tipo de proyectos.	Tiene como valor agregado, que, a partir de su experiencia, apoyan actividades específicas relacionadas con temas de innovación como: inteligencia competitiva, propiedad intelectual	https://www.javeriana.edu.co/innovacion-emprendimiento	G	COMP	X	Local

Ítem	Empresa / entidad que la ofrece	Región /País	Descripción del servicio	Observaciones	Link	Gratuito (G) Oneroso (O)	Temáticas transformación digital (TD) competitividad (COMP) transferencia de conocimiento (TC) internacionalización (INT)	Vigentes	Cobertura
31	INNOMAKE	Colombia	Laboratorio de innovación dedicado a identificar y acelerar las ideas con mayores oportunidades en el mercado, a través de metodologías ágiles que permiten reducir riesgos e incrementar el retorno de la inversión en la creación de nuevos productos y servicios.	Trabajan por el desarrollo del sector empresarial y el crecimiento del ecosistema emprendedor e innovador en Colombia. Cuenta con el apoyo de Colciencias, Mintic y Cámara de Comercio de Cartagena, trabajan con empresas, emprendimientos y aliados estratégicos a nivel nacional e internacional.	https://innomake.co/ - nosotros	G	COMP, TD Y TC	X	Local
32	ESCALA	Colombia/ Medellín	Sistema de Innovación Íntegral. Acompaña la creación de nuevas ideas y soluciones innovadoras que puedan tener viabilidad y respuesta a un problema específico hasta un prototipo.	Proceso de acompañamiento para el ajuste y perfeccionamiento de modelos de negocios. La metodología MNI (modelo de Negocio Integral) pivota sobre cuatro ejes fundamentales, que articulados y unidos por el perfil empresarial, puedan minimizar la incertidumbre de éxito y garantizar la implementación, continuidad y escalamiento de la viabilidad económica contenida en la factibilidad tecnológica, el deseo de las personas y la adaptabilidad del líder empresarial para implementar el modelo. Estos tres elementos son fundamentales para, además, que un proyecto innovador tenga éxito.	https://escala.edu.co/experiencia-e/programas-de-desarrollo-y-aceleracion-empresarial	G	COMP	X	Local
33	PARQUE SOFT	Colombia/ Nariño	Desarrolla soluciones tecnológicas para diferentes instituciones y empresas de la región, evidenciando que el talento nariñense está capacitado para prestar servicios y desarrollar productos con los mejores estándares de calidad, siendo competitivos en precios y destacándose por la calidad del soporte técnico prestado a los clientes. ParqueSoft Pasto ha logrado excelentes resultados en los proyectos emprendidos durante estos años con las instituciones impulsadoras de la iniciativa, lo que ha permitido el reconocimiento profesional de la marca en Nariño y con los clientes de todos los niveles.	Buscan apropiación de la innovación en las comunidades, basados en la sensibilidad, diversión, imaginación y las TIC. Es apoyado por la Universidad de Nariño, Alcaldía de Pasto, Colciencias, SENA y Mintic.	https://www.parquesoftpasto.com/	G	TD	X	Local

Ítem	Empresa / entidad que la ofrece	Región /País	Descripción del servicio	Observaciones	Link	Gratuito (G) Oneroso (O)	Temáticas transformación digital (TD) competitividad (COMP) transferencia de conocimiento (TC) internacionalización (INT)	Vigentes	Cobertura
34	PARQUE SOFT SUCRE	Colombia/ Sucre	Es un parque tecnológico diseñado para facilitar la creación y el desarrollo de empresas que provean al mercado productos y servicios en torno a la industria del software. Desarrolla soluciones tecnológicas para los diferentes sectores de la economía de la región, evidenciando que el talento emprendedor sucreño está capacitado para elaborar productos con los mejores estándares de calidad y soporte técnico. Forma parte del más grande ecosistema de arte digital, ciencia y tecnologías de la Información líder en Colombia	Dentro de los servicios, se encuentra Servicio Plus: Gestion de la Innovación. Desarrollo incremental. Laboratorio de Innovación. Robótica Educativa. Emprendimiento Digital. Gestión de Proyectos.	https://www.parquesoftsucre.com.co/	G	TD	X	Local
35	INCUBAR HUILA	Colombia/ Huila	Promueve el desarrollo modelos de negocios innovadores. Es un conjunto de organizaciones públicas y privadas que se articulan, con el propósito de facilitar la iniciación formal de la actividad empresarial, promover el acceso a financiación para emprendedores y empresas de reciente creación y promover la articulación interinstitucional para el fomento del emprendimiento y empresarismo en el Huila.	Algunos objetivos: 1. Promover la articulación de organizaciones que apoyan acciones de emprendimientos innovadores y generadores de empleo en la región y el país. 2. Desarrollar acciones conjuntas y coordinadas entre diversas organizaciones que permitan aprovechar sinergias y potenciar esfuerzos para impulsar emprendimientos empresariales y sociales.	https://www.incubarhuila.co/huila-emprende/	G	COMP	X	Local
36	UNIVERSIDAD AUTÓNOMA BUCARAMANGA	Colombia/ Bucaramanga	El taller de Innovación Empresarial les permite a las organizaciones innovar en procesos, productos, ambientes y equipos de trabajo. Durante este taller se abordan 4 momentos claves: clarificación del problema, ideación de soluciones, desarrollo de prototipos, e implementación de soluciones. Así mismo, podrá conocer el estilo de trabajo del equipo o clientes.	Liderar equipos para resolver problemas de manera creativa. Crear una cultura de creatividad en los equipos de trabajo para fomentar la innovación radical. Solucionar un reto corporativo y marcar la hoja de ruta para la aplicación de estrategias. Aprender de las dinámicas de trabajo de los equipos	https://creative.unab.edu.co/lo-que-ofrecemos/innovacion-empresarial/	G	COMP, TD Y TC	X	Local

Anexo C. Servicios de formación y capacitación

Item	Empresa / entidad que ofrece	Región /país	Descripción del servicio	Observaciones	Link	Oneroso /gratuito	Transf. Digital	Actual	Local	CONSTRUCCIÓN (1) AGRICULTURA (2) SOST. AMBIENTAL (3) CLÚSTER (4) COMPETITIVIDAD (5) LABORATORIO EMPRESARIAL (6) INTERNACIONALIZACION (7) BENEFICIOS ECONÓMICOS (8) TRANSF. DIGITAL (9)
1	CÁMARA DE COMERCIO DE MEDELLÍN	Colombia /Medellín	Formación a empresas que se inscriben para integrar los clústeres. Los clústeres incluyen productos y servicios, desde básicos hasta especializados, y crean un clima de negocios en el que todas las empresas e instituciones participantes se benefician y pueden mejorar su desempeño, competitividad y rentabilidad.	Los clústeres habilitados son: Hábitat sostenible, Turismo de negocios, Medellín Health City, negocios digitales, Café Medellín Antioquia,	https://www.camaramedellin.com.co/comunidad-cluster/gestion-regional	GRATUITO		X	X	3, 4, 5
2	CÁMARA DE COMERCIO DE BOGOTÁ	Colombia /Bogotá	Ofrece un portafolio de servicios de formación especialmente diseñado en diferentes áreas empresariales a las cuales se puede acceder sin costo.	Formación a empresas a través de diplomados y seminarios en gestión de la innovación, prototipado y desing thinking, entre otros.	https://www.ccb.org.co/Fortalezca-su-empresa/Programas-de-formacion-empresarial	GRATUITO		X	X	6
3	PARQUE E (Universidad de Antioquia y Alcaldía de Medellín)	Colombia /Medellín	Incubadora universitaria de emprendimientos de alto impacto basados en conocimiento y con alto potencial de crecimiento, dedicada a poner en marcha proyectos empresariales y a fortalecer empresas de reciente creación que se proyectan como dinamizadores de la región.	Es una plataforma especializada dedicada a incrementar las posibilidades de éxito de nuevos negocios y al fomento de la cultura emprendedora. Permite a las empresas emprendedoras, un acceso privilegiado a mercados y fuentes de financiación a través de 3 pilares: El Ser, el relacionamiento y el desarrollo de las capacidades	https://parquedelemprendimiento.co/	GRATUITO		X	X	5
4	CÁMARA DE COMERCIO VILLAVICENCIO	Colombia/Villavicencio	Busca desarrollar capacidades al interior de las empresas, ofreciendo asesoría, acompañamiento y capacitación al emprendedor y empresario. Este instrumento promueve el crecimiento empresarial, la innovación, la productividad y la rentabilidad a través de propuestas de mejoras en la administración, la gerencia, la producción, desarrollo tecnológico, acceso a créditos	Tiene como objetivos principales: Promover la creación de nuevas empresas • Impulsar el crecimiento y desarrollo de las MiPymes • Generar procesos de innovación y sostenibilidad. Ayudan a generar en las empresas un alto grado de productividad, competitividad, sostenibilidad, diversificación y expansión en el mercado.	https://www.ccv.org.co/es/ipaginas/ver/G2/94/coord-emprend-innov-dinamiz-y-tics/	GRATUITO	X	X	X	5 y 9

Item	Empresa / entidad que ofrece	Región /país	Descripción del servicio	Observaciones	Link	Oneroso /gratuito	Transf. Digital	Actual	Local	CONSTRUCCIÓN (1) AGRICULTURA (2) SOST. AMBIENTAL (3) CLÚSTER (4) COMPETITIVIDAD (5) LABORATORIO EMPRESARIAL (6) INTERNACIONALIZACION (7) BENEFICIOS ECONÓMICOS (8) TRANSF. DIGITAL (9)
			que les permita expandir el negocio a nivel nacional e insertarse en la economía global.							
5	CÁMARA DE COMERCIO VILLAVICENCIO	Colombia/Villavicencio	Promueve el fortalecimiento y la innovación empresarial del sector turismo, sector priorizado por los 4 departamentos de la jurisdicción en sus Agendas Departamentales de Competitividad, a través de convenios y alianzas con entidades del orden nacional, regional y local, públicos y privados, con el propósito de consolidarlo como el eje articulador de las demás apuestas productivas de la región.	Fortalece a los empresarios del Sector Turismo durante el proceso de alistamiento, en Meta, Guainía, Vaupés, Vichada y el municipio de Paratebueno; con el proceso de transición de Negocios Convencionales al uso de Negocios en Ambientes digitales; que generan una Cultura Digital Empresarial, en el marco de recuperación a mediano plazo.	https://www.ccv.org.co/es/ipaginas/ver/G2/99/coordinacion-de-turismo/	GRATUITO	X	X	X	9
6	CÁMARA DE COMERCIO VILLAVICENCIO/UNIVERSIDAD SANTO TOMAS VILLAVICENCIO	Colombia/Villavicencio	Acumulan una significativa experiencia en el desarrollo de iniciativas que apoyan a las empresas del país en especial MiPymes de la Orinoquia; para que mejoren su productividad y su competitividad. Parte de dicha experiencia se enfoca en la innovación como eje transversal: se han desarrollado acciones para que la cultura innovadora esté en el radar de los empresarios de la Orinoquia.	Pretende generar un buen número de casos de éxito, buenas prácticas y lecciones por aprender. Los encargados de la construcción de este documento fue un equipo interdisciplinario de profesionales docentes y el Señor Decano, como parte del equipo de la Facultad de Ingeniería Industrial de la Universidad Santo Tomás Villavicencio, quienes se dieron a la tarea de construir esta cartilla.	https://www.ccv.org.co/es/paginas_157	GRATUITO		X	X	5 y 9

Item	Empresa / entidad que ofrece	Región /país	Descripción del servicio	Observaciones	Link	Oneroso /gratuito	Transf. Digital	Actual	Local	CONSTRUCCIÓN (1) AGRICULTURA (2) SOST. AMBIENTAL (3) CLÚSTER (4) COMPETITIVIDAD (5) LABORATORIO EMPRESARIAL (6) INTERNACIONALIZACION (7) BENEFICIOS ECONÓMICOS (8) TRANSF. DIGITAL (9)
7	CÁMARA DE COMERCIO DE MEDELLIN	Colombia/Medellín	Una programación de conferencias, seminarios, cursos, talleres y certificaciones que permiten acceder a conocimientos y herramientas que apoyan procesos de transformación de los negocios.	Se tienen en cuenta los siguientes factores: Innovación. Aceleración. Tecnologías para la cuarta revolución: IoT (Internet de las Cosas), BigData, IA (Inteligencia Artificial) y BlockChain. Identificación de activos ocultos. Cursos y talleres para análisis de mercados e investigación de mercados (en todos sus componentes). Certificación en transformación digital. Certificación TDX - Customer Experience y Transformación Digital. Marketing digital y Redes sociales Social selling Transformación Cultural - Desarrollo de líderes ágiles. Gestión del cambio. Cultura ágil / Cultura sostenible.	https://www.camaramedellin.com.co/quiero-un-servicio-para-mi-empresa/consultoria/centro-de-desarrollo-de-negocios-digitales	GRATUITO	X	X	X	9
8	CÁMARA DE COMERCIO DE MEDELLIN	Colombia/Medellín	Programa que busca Innovación social y sostenibilidad, transformación digital, industrias creativas y competitividad turística fueron los temas que se trataron en Retos y Oportunidades para la industria turística- Encuentro departamental de las pymes 2018, un evento que congregó a 120 empresarios y emprendedores del sector turismo de varias subregiones del departamento.	Innovación social donde los territorios se empoderan de sus actividades turísticas alrededor de la sostenibilidad es lo que ha logrado hacer la Red de turismo rural comunitario La Minga, esta red se encuentra en el corregimiento de Santa Elena e incluye casi 24 emprendimientos de ese territorio.	https://www.camaramedellin.com.co/articulos-y-noticias/noticias/120-empresarios-pyme-participaron-en-encuentro	GRATUITO	X			9
9	CÁMARA DE COMERCIO DEL HUILA	Colombia/Huila	Se realiza la asistencia, asesoría a los emprendedores y empresarios en su proceso de crear su marca comercial, aquí se enseña y trabaja con el participante la importancia de diseñar una marca que vaya acorde con la filosofía corporativa y comercial, así como con la normatividad, se realiza el prototipado conceptual digital (logo) de la marca trabajada en el taller.	Se asiste y acompaña a los emprendedores o empresarios, a través de una metodología sencilla, fácil y dinámica en la implementación de la innovación para la solución de problemas u oportunidades, que mejoren y fortalezcan la competitividad empresarial de sus organizaciones.	https://www.cchuila.org/rutas-de-innovacion-y-talleres/	GRATUITO		X	X	5

Item	Empresa / entidad que ofrece	Región /país	Descripción del servicio	Observaciones	Link	Oneroso /gratuito	Transf. Digital	Actual	Local	CONSTRUCCIÓN (1) AGRICULTURA (2) SOST. AMBIENTAL (3) CLÚSTER (4) COMPETITIVIDAD (5) LABORATORIO EMPRESARIAL (6) INTERNACIONALIZACION (7) BENEFICIOS ECONÓMICOS (8) TRANSF. DIGITAL (9)
10	CÁMARA DE COMERCIO DEL HUILA	Colombia/Huila	Ha diseñado una hoja de ruta para asesorar y acompañar a los empresarios en el sueño de exportar. Los empresarios que realicen sus primeras exportaciones en pequeñas cantidades o el envío de muestras de productos podrán hacerlo de manera gratuita, la entidad pagará la cuota del envío de hasta 20kg	Uno de los pasos importantes e iniciales es que se realiza un diagnóstico en la empresa que debe cumplir aspectos importantes como estar legalmente constituida; tener un producto o servicio con demanda internacional; contar con capacidad de producción, experiencia comercial, apalancamiento financiero, además de compromiso y dedicación.	https://www.cchuila.org/ruta-de-internacionalizacion-para-el-empresario-opita/	GRATUITO		X	X	7, 8
11	CÁMARA DE COMERCIO DEL HUILA	Colombia/Huila	Se ofrece un programa "Centro de Transformación Digital" donde se realiza un acompañamiento a las empresas en su proceso de apropiación táctica de tecnologías como una estrategia de largo plazo, que les ayudará a adaptarse a la evolución del mercado.	Se podrán diagnosticar al menos 400 empresas y 150 de ellas iniciarán la transformación a partir de un diagnóstico para construir un plan de trabajo para intervenirlas. Los emprendedores, empresarios, personas naturales y/o jurídicas podrán postularse en convocatorias	https://www.cchuila.org/centro-digital-de-transformacion-empresarial/	GRATUITO	X	X	X	9
12	CÁMARA DE COMERCIO DEL HUILA	Colombia/Huila	Brindan dos opciones: 1. La readecuación del Recinto Ferial “La Vorágine” para convertir las zonas subutilizadas, en un Centro de Innovación y Emprendimiento, soportado en seis pilares contemplados en la recién creada política pública de emprendimiento. 2.El proyecto “Centro Empresarial Huila E”, iniciativa que también está enmarcada en la política pública de emprendimiento, empresarismo e innovación.	Todo el portafolio de servicios empresariales de la Cámara será instalado en la nueva sede. Es importante que la dinámica de emprendimiento, empresarismo e innovación, tan necesaria en el departamento, no se quede en el papel, sino que se convierta en una realidad, con proyectos de desarrollo regional debidamente alineados con todos los actores.	https://www.cchuila.org/dos-grandes-iniciativas/	GRATUITO		X	X	5
13	CÁMARA DE COMERCIO DEL HUILA	Colombia/Huila	Los laboratorios de ideación y co-creación, estarán a disposición de los microempresarios del departamento del Huila para mejorar los proyectos de innovación. Los microempresarios tienen a disposición los laboratorios de ideación y co-creación, escenarios que permiten resolver y mejorar los proyectos de innovación liderados por los comerciantes del departamento.	En los Laboratorios de Ideación que está trabajando la Cámara de Comercio del Huila asesoran a los microempresarios a través de la metodología Design Thinking y Lean Startup para resolver los problemas que se presentan en sus empresas, así mismo todos los empresarios y microempresarios pueden aplicar, para ello deben tener su proyecto de innovación formulado e indicar qué dificultad se les presentó para intervenir con varios profesionales.	https://www.cchuila.org/laboratorios-de-ideacion/	GRATUITO		X	X	6

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14	CÁMARA DE COMERCIO DE CARTAGENA	Colombia/Cartagena	Impulsa a trabajar por la región y por lo tanto busca que las empresas consoliden sus procesos de gestión de la innovación para lograr mejorar y fortalecer las capacidades internas y la competitividad de las apuestas productivas.	Estrategia de la región CARIBE que busca unificar esfuerzos de las Cámaras de comercio de Cartagena, Barranquilla, La Guajira, Magangué, Montería, San Andrés Providencia y Santa Catalina, Santa Marta, Sincelejo y Valledupar, para incrementar el número de empresas con capacidades en gestión de la innovación enfocadas en la identificación de oportunidades, necesidades o problemas y el desarrollo y validación de soluciones innovadoras guiadas por el mercado.	https://www.cccartagena.org.co/fortalecer-empresa/fortalece-tu-empresa-innovacion/	GRATUITO		X	X	5
15	CÁMARA DE COMERCIO DE CARTAGENA	Colombia/Cartagena	Supone un impulso para la reactivación económica de las micro y pequeñas empresas donde éstas pueden crear sus páginas web de manera rápida y gratuita que pronto llevarán incluidas un botón de pago, introduciéndolas de esta manera al comercio electrónico por primera vez.	Viene acompañado de capacitaciones digitales que fortalecen las capacidades empresariales de las micro y pequeñas empresas en este entorno digital. La digitalización se ha convertido en una clave del éxito para las micro y pequeñas empresas a causa de la aceleración del consumo en internet. Antes del comienzo de la pandemia, cerca de tres cuartas partes del consumo se originaba o finalizaba en canales digitales. Esta aceleración hace que sea ahora más necesario que nunca que las empresas puedan vender por internet para adaptarse al canal donde sus consumidores les están buscando.	https://www.cccartagena.org.co/2020/09/07/alianza-entre-la-camara-de-comercio-de-cartagena-para-reactivacion-de-las-mipymes/	GRATUITO	X	X	X	9
16	CÁMARA DE COMERCIO DE CARTAGENA	Colombia/Cartagena	Supone un impulso para la reactivación económica de las micro y pequeñas empresas donde éstas pueden crear sus páginas web de manera rápida y gratuita que pronto llevarán incluidas un botón de pago, introduciéndolas de esta manera al comercio electrónico por primera vez.	Viene acompañado de capacitaciones digitales que fortalecen las capacidades empresariales de las micro y pequeñas empresas en este entorno digital. La digitalización se ha convertido en una clave del éxito para las micro y pequeñas empresas a causa de la aceleración del consumo en internet. Antes del comienzo de la pandemia, cerca de tres cuartas partes del consumo se originaba o finalizaba en canales digitales. Esta aceleración hace que sea ahora más necesario que nunca que las empresas puedan vender por internet para adaptarse al canal donde sus consumidores les están buscando.	https://www.cccartagena.org.co/2020/09/07/alianza-entre-la-camara-de-comercio-de-cartagena-para-reactivacion-de-las-mipymes/	GRATUITO	X	X	X	9

Item	Empresa / entidad que ofrece	Región /país	Descripción del servicio	Observaciones	Link	Oneroso /gratuito	Transf. Digital	Actual	Local	CONSTRUCCIÓN (1) AGRICULTURA (2) SOST. AMBIENTAL (3) CLÚSTER (4) COMPETITIVIDAD (5) LABORATORIO EMPRESARIAL (6) INTERNACIONALIZACION (7) BENEFICIOS ECONÓMICOS (8) TRANSF. DIGITAL (9)
17	CÁMARA DE COMERCIO DE CALI	Colombia/Cali	Ofrecen el concepto de garantía sobre bienes muebles al permitir mayor flexibilidad en la utilización de los mismos para acceder al crédito, beneficiando especialmente a las pymes.	La ejecución de garantías mobiliarias también aplica sobre obligaciones presentes o futuras, sobre bienes corporales o incorporales, y derechos o acciones sobre bienes muebles o mercantiles. Entre las empresas que han solicitado crédito a través del modelo de garantías mobiliarias están las del sector construcción, otras actividades de servicio, transporte y almacenamiento, y ganadería y agricultura.	https://www.ccc.org.co/categoria_articulo/garantias-mobiliarias-para-pymes-cali/	GRATUITO		X	X	2 y 8
18	MINISTERIO DE COMERCIO	Colombia/Bogotá	La Agencia de Innovación y Desarrollo de Bancóldex 'iNNpulsa Colombia'. Se trata de una iniciativa creada por el Gobierno Nacional para jalonar la locomotora de la innovación y con la que se busca apoyar la actividad empresarial e innovadora, a través de una serie de instrumentos, financieros y no financieros. De tal manera que hoy las empresas, de todos los tamaños, tienen a su servicio nuevas opciones y programas renovados que les permiten seguir innovando.	Sus líneas de apoyo están dirigida a víctimas del desplazamiento forzado por la violencia con servicios de desarrollo empresarial, formación en educación financiera, formalización empresarial y acompañamiento psicosocial. Este programa gubernamental se enfoca en cuatro frentes de trabajo:» Emprendimiento dinámico innovador, MiPymes» Grandes empresas» Regiones	https://www.ccc.org.co/innpulsa-colombia-nueva-herramienta-para-las-mipymes/	GRATUITO		X	X	8
19	CÁMARA DE COMERCIO DE CALI	Colombia/Cali	Es un taller dirigido a emprendedores, dueños de Pymes y empresarios que quieran alinear sus planes a las herramientas digitales para conseguir sus objetivos estratégicos. Estudiantes que quieran aprender de herramientas digitales.	Optimización de herramientas digitales	https://www.ccc.org.co/webinar-edicion-fotografia-desde-celular/	GRATUITO	X	X	X	9

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20	CÁMARA DE COMERCIO DE CALI	Colombia/Cali	El objetivo principal es que las empresas definan una hoja de ruta que permita acelerar el proceso de desarrollo y adopción de nuevas tecnologías digitales en Cali y el Valle del Cauca. Este proceso durará seis meses, de tal forma que en el último trimestre del año se iniciará la ejecución de los proyectos priorizados por las empresas en el Plan de Acción que construirán empleando la misma metodología con la que se ha trabajo en las demás Iniciativas Clúster de la región.	Desafía y acompaña a las empresas de la región que están dispuestas a crecer aprovechando las oportunidades que presenta la Economía Digital. Debe ser una prioridad para los microempresarios y para la alta gerencia de las grandes compañías. Existe una amplia oferta de programas en diversas entidades, entre ellas, las cámaras de comercio, que promueven y facilitan la adopción de estas nuevas tecnologías en las empresas de todos los sectores y de todos los tamaños.	https://www.ccc.org.co/categoria_articulo/bienvenidos-la-economia-digital/	GRATUITO	X	X	X	9
21	CÁMARA DE COMERCIO DE CALI	Colombia/Cali	Dotar a los participantes de una caja de herramientas teórico-prácticas que le permitan adquirir competencias con un pensamiento innovador, pudiendo así crear ventajas comparativas que permitan sostener y mejorar la posición que tenga la empresa en el entorno socioeconómico al que pertenezca y enfatizar en ellas en el momento de ejecutar iniciativas de negocios.	La innovación como actividad» Innovación y gestión de marcas» Experiencias de innovación Elementos Claves en la Gestión Empresarial» Clientes (Segmentación estratégica, propuesta de valor, canales de comunicación)	https://www.ccc.org.co/estrategia-sede-obrero/	GRATUITO		X	X	5
22	CÁMARA DE COMERCIO DE PEREIRA	Colombia/Pereira	Objetivo seguir propiciando las condiciones adecuadas al servicio de los emprendedores, conocer las buenas prácticas de los demás ecosistemas y las problemáticas reales de los emprendedores permitirá moldear las apuestas y potencializar los servicios siendo coherentes con la revolución del emprendimiento en la economía del país.	Tienen 3 focos de trabajo: Tejido laboral: A través de la capacitación y formación de la población para la inserción en el mercado laboral. Tejido empresarial: Para la consolidación y el desarrollo de empresas y redes empresariales asociadas a los sectores estratégicos de interés. Tejido social: Para la generación de espacios que contribuyan a una mayor participación ciudadana y al desarrollo de la ciencia y la tecnología en la apropiación social del conocimiento.	https://www.camarapereira.org.co/es/red-departamental-de-emprendimientorisaralda-emprende-EV2169	GRATUITO		X	X	5

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23	CÁMARA DE COMERCIO DE PEREIRA	Colombia/Pereira	Objetivo: La estrategia nacional es ampliar el impacto de programas pensados para apoyar a los empresarios a superar dificultades que se presentan con sus procesos de producción, además de buscar reducir costos y adoptar estándares de calidad. Se promoverá la innovación y el mejoramiento de la gestión del talento humano, buscando además reducir el impacto ambiental al optimizar el consumo de energía. Este programa es una de las 10 metas más importantes del Plan Nacional de Desarrollo del actual Gobierno. En Pereira serán 15 las empresas que se beneficien con el programa y la meta es que incrementen su productividad en un 8% aproximadamente.	Los empresarios interesados en participar se deberán postular a través de www.fabricasdeproductividad.com. Después de verificar el cumplimiento de requisitos, un gestor local realizará el diagnóstico para conocer qué problemas de productividad tiene la empresa e identificar los servicios en los que se deberá trabajar. Después inicia la etapa de asistencia técnica con una duración de 80 horas al final de la cual se hará una evaluación de la intervención y los resultados.	https://www.camarapereira.org.co/es/risaralda-fabrica-de-productividad-EV2336	GRATUITO		X	X	3 Y 5
24	CÁMARA DE COMERCIO DE PEREIRA/MINISTERIO DE CIENCIAS	Colombia/Pereira	Busca disminuir las brechas en los índices de innovación regional, fortalecer las cadenas de valor a través de la creación de soluciones y proyectos de innovación colaborativa. Podrán desarrollar capacidades en innovación, entablar conexiones con otros actores del ecosistema y mejorar los niveles de productividad y competitividad, haciendo de la innovación la base de la estrategia de negocios.	A través del programa se generarán ideas, cooperación en las cadenas de valor priorizadas, creación en equipo de soluciones innovadoras entre empresas y entidades aliadas, para impactar la economía de la región, afectada por la pandemia.	https://www.camarapereira.org.co/es/camara-de-comercio-de-pereira-se-une-a-colinnova-un-programa-pensado-para-resolver-retos-que-pretende-reactivar-la-economia-de-la-region-EV2524	GRATUITO		X	X	5

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25	CÁMARA DE COMERCIO DE BARRANQUILLA	Colombia/Barranquilla	Permitió la creación de una red de colaboración en la que las empresas buscaron potenciales aliados a nivel local, nacional e internacional, para resolver sus retos de innovación y/o crear relaciones productivas, accediendo también a nuevas fuentes de ideas y tecnologías. Con la implementación de este programa, el Atlántico se posiciona como el primer departamento el en todo el país en ser seleccionado por el Ministerio de Ciencia, Tecnología e innovación para desarrollar este piloto que servirá de referente para ser replicado en otras regiones.	Se enfocan en priorizar problemas, necesidades u oportunidades individuales susceptibles de ser solucionados a través de actores, fuentes y tecnologías externas, para finalmente formular en conjunto los retos de innovación abierta e identificar los posibles solucionadores. Se destaca que el 100% de las organizaciones apropiaron la metodología, aprovechando herramientas como la guía desarrollada por la entidad asesora y 71 Propuestas de Solucionadores para dar respuesta a los retos de innovación sectoriales.	https://www.camarabaq.org.co/retos-priorizados-en-el-cluster-de-logistica-espacios-habitables-y-energias-al-cierre-del-programa-de-innovacion-abierta-de-pactos-por-la-innovacion/	GRATUITO	X	X	X	9
26	CÁMARA DE COMERCIO DE BARRANQUILLA	Colombia/Barranquilla	El programa busca desarrollar una estrategia que impulsa a las empresas a crear y/o implementar sistemas de innovación y generar resultados concretos en términos de nuevos modelos de negocio, ahorros en sus costos y aumento de las inversiones en actividades de Ciencia Tecnología e Innovación – ACTI.	Las empresas participantes se caracterizaron por su alto potencial innovador y el compromiso de sus equipos de innovación. Durante el evento de cierre se destacaron los casos de las empresas Farmacia Torres Ltda. y Labormar, quienes incrementaron sus órdenes de compra gracias a la apuesta de innovar en sus canales de comercialización.	https://www.camarabaq.org.co/el-atlantico-cuenta-con-15-nuevas-empresas-que-han-creado-un-sistema-de-innovacion/	GRATUITO			X	5
27	CÁMARA DE COMERCIO DE BARRANQUILLA	Colombia/Barranquilla	Es un programa de acompañamiento remoto de 10 semanas con una metodología innovadora para acelerar el crecimiento de 10 empresas, mediante el cual se incrementará su capacidad instalada para que aumenten su productividad y alcancen un crecimiento acelerado, impulsado y sostenible Esta dirigido a microempresas lideradas por mujeres y/o jóvenes en el departamento del Atlántico con potencial innovador, que estén planeando o hayan iniciado un proyecto de innovación al interior de la	Buscan implementar, durante 10 semanas, un esquema de aceleración gratuito para 10 empresas, con el objetivo de aumentar su capacidad instalada, e innovación para que alcancen mayor productividad y logren impulsar el crecimiento de su empresa, contribuyendo así a la reactivación económica sostenible del Departamento.	https://www.camarabaq.org.co/el-atlantico-cuenta-con-15-nuevas-empresas-que-han-creado-un-sistema-de-innovacion/	GRATUITO			X	5

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			organización.							
28	CÁMARA DE COMERCIO DE BARRANQUILLA	Colombia/Barranquilla	El programa se enmarca en la estrategia Pactos por la innovación, y busca identificar soluciones para resolver retos de innovación, para el caso de Barranquilla, en los clústeres de Logística, Espacios Habitables y Energía.	Energías: ¿podemos asegurar la confiabilidad de proveedores contactados 100% de manera digital? Espacios Habitables: ¿Cómo predecir el comportamiento de la demanda de materias primas o nuevos productos? Logística: ¿Cómo agilizamos y automatizamos el proceso de gestión de solicitudes de servicios, quejas y reclamos de nuestros clientes, que llegan a través de diferentes canales?	https://www.camarabaq.org.co/retos-de-innovacion/	GRATUITO			X	3 y 4
29	CÁMARA DE COMERCIO DE BARRANQUILLA	Colombia/Barranquilla	Innovaciones en construcción sostenible. Siendo el reto diseñar una estrategia enfocada en construcción sostenible, luego de que, a través de una convocatoria de innovación abierta, se identificaran necesidades del mercado a las cuales estudiantes y empresarios respondieron con interesantes propuestas de solución. Para ello trabajaron con aliados estratégicos del ecosistema de innovación y competitividad: empresarios, asesores, gobierno, gremios, universidades y centros de transferencia de conocimiento.	Dentro de las innovaciones desarrolladas se destacan Eco hábitats sostenibles; sistemas de sellado, impermeabilización y optimización térmica de superficies; productos reciclables para mejoramiento termoacústico; sistemas de regulación de confort conectados a la nube; bloques livianos en concreto; techos verdes de caucho reciclado; sistemas de gestión energética usando telemática; electrolización como parte del proceso de producción del cemento; y transformación de los residuos del poliestireno expandido. Dentro de la estrategia de clusterización que impulsa la Cámara de Comercio de Barranquilla, se ha identificado a la construcción como uno de los sectores con mayores encadenamientos productivos.	https://www.camarabaq.org.co/innovaciones-construccion-sostenible/	GRATUITO		X	X	3 y 5

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30	CÁMARA DE COMERCIO DE BARRANQUILLA	Colombia/Barranquilla	Es un programa suscrito. Un convenio que pondrá al servicio de las micro, pequeñas y medianas empresas recursos técnicos, humanos y logísticos para aumentar su productividad. Se implementarán programas de crecimiento empresarial, dirigido a micro y pequeñas empresas, para promover la formalización, el fortalecimiento y la innovación empresarial, contribuir al desarrollo regional, empresarial y mejorar la competitividad.	Mediante la estrategia Pymelab, en el marco de la alianza con la Cámara, se ejecutarán talleres de co-creación, innovación abierta y otros, para el fortalecimiento del ecosistema regional de innovación, de tal manera que los empresarios creen soluciones innovadoras a retos de territorio que beneficien su sector, incluyendo el desarrollo de prototipos, que puedan acceder a financiación. También se mejorarán los grados de madurez digital de las MiPymes en sus procesos organizacionales fortaleciendo sus capacidades empresariales, modelos de negocio, competencias digitales de capital humano y resultados productivos y económicos. Impactando, entre otros indicadores las ventas en canales digitales.	https://www.camarabaq.org.co/sena-y-camara-de-comercio-crean-ruta-para-aumentar-productividad-de-mipymes-del-atlantico/	GRATUITO	X	X	X	6, 9
31	CÁMARA DE COMERCIO DE BARRANQUILLA	Colombia/Barranquilla	El objetivo es mejorar la competitividad de las empresas y apoyarlas en su avance hacia segmentos de negocio más intensivos en conocimiento y contenido tecnológico. Atraer inversión extranjera hacia la producción de bienes y equipos avanzados para este tipo de generación; promover la eficiencia energética; y hacer del Caribe el centro de aprovechamiento energético del hidrógeno, hacen parte del Plan de Acción.	El mapa de navegación, presentado hoy, tiene como punto de partida el fortalecimiento del clúster de energías renovables con el fin de articular la cadena de valor del sector en la región, conformada por más seis mil empresas y treinta instituciones educativas, que, por su contenido intensivo en conocimiento, fomentan la innovación y el desarrollo tecnológico en esta industrias y pretende que el clúster promueva ese desarrollo de manera equilibrada y con cohesión regional; articule la cadena de valor de energía para mejorar la visibilidad, el posicionamiento y la competitividad de las empresas locales; y apoye a la industria en su avance hacia segmentos de negocio más intensivos en conocimiento y con mayor contenido tecnológico.	https://www.camarabaq.org.co/camaras-de-comercio-del-caribe-presentan-hoja-de-ruta-para-desarrollar-potencial-de-la-region-en-energias-renovables/	GRATUITO	X	X	X	3, 4 Y 9

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32	CÁMARA DE COMERCIO DE IBAGUÉ	Colombia/Ibagué	Busca que las empresas optimicen recursos y mejoren sus procesos, y para lograrlo se hará uso de metodologías como Kaizen de origen japonés que traduce 'mejora continua', Six Sigma 'herramienta estadística que reduce la variabilidad de los procesos' y Lean Manufacturing metodología 'enfocada en optimizar los sistemas de producción a través de la eliminación de los desperdicios'.	La productividad es un factor relacionado directamente con lograr los resultados, y esto a su vez traduce crecimiento, se hace urgente diseñar y ejecutar acciones encaminadas a mejorarlo. De ahí la importancia y el llamado que se hace desde la CCI a los empresarios para que se inscriban en el Programa Productividad Empresarial 'mejoramiento de la productividad en Pymes.	https://www.ccibague.org/index.php/component/k2/item/84-productividad-en-empresas-manufactureras	GRATUITO		X	X	5
33	CÁMARA DE COMERCIO DE BOGOTÁ	Colombia/Bogotá	Analiza el comportamiento de la creación, renovación y liquidación de empresas en Bogotá y la región con el propósito de realizar el seguimiento a los principales indicadores empresariales como el crecimiento de la base empresarial, tamaño, sector económico, actividad jurídica y otros que facilitan el entendimiento del mercado y la identificación de oportunidad a empresarios y emprendedores.	Propósito de consolidar la gestión de las iniciativas de clúster y macro sectores en Bogotá y la región que lidera la entidad, genera información y conocimiento para identificar las características, necesidades y oportunidades económicas y empresariales de los Clúster y contribuir al monitoreo con la estructuración de observatorios y a la gestión con estudios y planes de acción.	https://www.ccb.org.co/Transformar-Bogota/Desarrollo-economico/Dinamica-empresarial	GRATUITO		X	X	3 y 4
34	CÁMARA DE COMERCIO DE BOGOTÁ	Colombia/Bogotá	CREAR es la iniciativa de la CCB que busca apoyar la reactivación económica de las microempresas y pymes de Bogotá y región, a través de la generación de conocimiento, cierre de brechas empresariales y acceso al crédito a través del sistema financiero con dos componentes: 1. Portafolio de servicios de formación, asesoría, contacto financiero, acompañamiento y seguimiento. 2. Acercamiento a las empresas a soluciones de crédito en el marco del Programa de Garantías "Unidos por Colombia".	Propósito de consolidar la gestión de las iniciativas de clúster y macro sectores en Bogotá y la región que lidera la entidad, generamos información y conocimiento para identificar las características, necesidades y oportunidades de económicas y empresariales de los Clúster y contribuir al monitoreo con la estructuración de observatorios y a la gestión con estudios y planes de acción.	https://www.ccb.org.co/Transformar-Bogota/Desarrollo-economico/Dinamica-empresarial	GRATUITO		X	X	3, 4 Y 8

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35	SENA	Colombia/Bogotá	Productividad para las empresas, del SENA y Colombia Productiva, organizaciones productivas y micro, pequeñas, medianas y grandes empresas recibirán cofinanciamiento para proyectos que promuevan la sofisticación, innovación y/o desarrollo tecnológico. El programa cofinanciará hasta $200 millones por proyecto (hasta 90% para MiPymes y hasta 50% grandes empresas); y se espera beneficiar, al menos, a 120 proyectos.	"Seleccionar propuestas para otorgarles recursos de cofinanciación de proyectos que conduzcan a la innovación, el desarrollo tecnológico o la sofisticación de sus procesos, productos o servicios, a través de la incorporación y/o transferencia de conocimientos y tecnologías, con miras a mejorar su productividad y competitividad.	https://www.ccb.org.co/Transformar-Bogota/Desarrollo-economico/Dinamica-empresarial	GRATUITO	X	X	X	8, 9
36	MINISTERIO TIC	Colombia/Bogotá	Programa que busca digitalización de las pymes: 1. Crea una página web gratis y en menos de 15 minutos para tu empresa. 2. Tu nueva página aparece arriba de los resultados de Google, en la parte de Google Maps siempre gratis y en el listado MiPymes del país. 3. Participa con el MinTIC, Kolau y entidades como Google en capacitaciones virtuales con estrategias digitales para crecer tu empresa, exclusivos y gratuitos. ¡Puedes hacer tus preguntas en directo!	No es necesario tener conocimientos básicos para crear tu página web, ya que aparecerá en Google obteniendo un listado de emergencias de digitalización y Zona Orgánica Google. Una red de entidades unidas alrededor de una misión: acompañarte en el camino digital. A través de capacitaciones e iniciativas conjuntas, te vamos a ir acompañando para que saques el máximo rendimiento de la página web.	https://www.kolau.es/colombia	GRATUITO	X	X	X	9
37	FENALCO	Colombia/Bogotá	Capacitar a las empresas en la Ley "Por medio de la cual se impulsa el emprendimiento" , que busca por objeto establecer un marco regulatorio que propicie el emprendimiento y el crecimiento, consolidación y sostenibilidad de las empresas, con el fin de aumentar el bienestar social y generar equidad. Donde se facilite el desarrollo modelos de negocio que apalanquen e impulsen la economía de alto valor agregado y sostenible en distintos ámbitos, a partir de la	Se podrá concertar y ejecutar programas, planes y proyectos para la profundización de los microcréditos, como instrumento de formalización de las microempresas y de generación de empleo, directamente con las entidades sin ánimo de lucro especializadas en crédito microempresarial.	https://www.fenalco.com.co/gestión-jurídica/el-congreso-de-la-república-impulsa-el-emprendimiento	GRATUITO	X	X	X	8, 9

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			promoción de actividades intensivas en tecnología, e innovación.							
38	FENALCO	Colombia/Bogotá	Capacitar a las empresas acorde con la Ley No. 102 de 2017 de Cámara "Por medio del cual se promueve la innovación en Colombia y se dictan otras disposiciones", su objeto es promover la innovación en el país mediante la consolidación de ecosistemas de innovación. Consistirá en la captación de pequeñas cantidades de dinero de varios individuos, mediante una plataforma de internet que selecciona y publica proyectos, el cual se destinará a la donación o financiación, usualmente sin un colateral, de proyectos, modelos de negocio o actividades personales.	Estarán dedicados al asentamiento de Microempresas y Pequeñas Empresas que en virtud de la Ley 590 del 2000 se dediquen a actividades de innovación. Las empresas que cuenten con una planta de personal de más de doscientos (200) empleados y activos totales por un valor superior a quince mil (15.000) salarios mínimos mensuales legales vigentes, que contraten productos y servicios certificados por el Departamento Administrativo de Colciencias como innovadores, con Microempresas, Pequeñas Empresas y Medianas Empresas, podrán ser sujeto de reducciones en el Impuesto de Renta hasta el treinta por ciento (30%) de la renta líquida gravable.	https://www.fenalco.com.co/gestión-jurídica/proyecto-de-ley-pretende-promover-la-innovación-en-el-país	GRATUITO	X	X	X	8, 9

Item	Empresa / entidad que ofrece	Región /país	Descripción del servicio	Observaciones	Link	Oneroso /gratuito	Transf. Digital	Actual	Local	CONSTRUCCIÓN (1) AGRICULTURA (2) SOST. AMBIENTAL (3) CLÚSTER (4) COMPETITIVIDAD (5) LABORATORIO EMPRESARIAL (6) INTERNACIONALIZACION (7) BENEFICIOS ECONÓMICOS (8) TRANSF. DIGITAL (9)
39	SENA	Colombia/Bogotá	Asesoría para el Fortalecimiento Empresarial de las micro, pequeñas y medianas empresas tiene como objetivo mejorar la productividad, competitividad y rentabilidad de las empresas, para que produzcan más y mejor. Un área importante para la asesoría es la Gestión de la Innovación / Desarrollo y Sofisticación de Producto.	Se orienta en diferentes etapas Orientación: del Programa Fortalecimiento Empresarial Diagnóstico: mediante la aplicación de una herramienta se evalúa la situación actual de su organización en cada una de sus áreas funcionales. Formulación del plan de acción: se identifican las áreas de la empresa que requieren intervención, planteando acciones para lograr escalabilidad, crecimiento e impacto económico. Plan de acción: se hace un acompañamiento para su implementación y mejora continua.	https://www.sena.edu.co/es-co/trabajo/Paginas/fortalecimientoMypes.aspx	GRATUITO		X	X	5
40	SENA	Colombia/Bogotá	Establece como una de sus estrategias transversales la transformación empresarial, cuyo principal propósito es el desarrollo productivo, innovación y adopción tecnológica para la productividad. Así mismo, el PND, dentro de la estrategia de "Transformación empresarial: desarrollo productivo, innovación y adopción tecnológica para la productividad"	Se busca contribuir al desarrollo tecnológico del país y a la implantación de procesos innovadores en el sector productivo nacional, mediante el aporte de recursos a proyectos de las unidades productivas, cuyo propósito y fin sea el de elevar sus niveles de productividad con el fortalecimiento de las capacidades tecnológicas de las empresas, entendidas estas como el conjunto de habilidades con las que cuenta una empresa para usar eficientemente el conocimiento tecnológico adquirido; asimilar, utilizar, adaptar y cambiar tecnologías existentes	https://www.sena.edu.co/es-co/Empresarios/Paginas/SENA INNOVA 2020/INICIO-INNOVA.aspx	GRATUITO	X	X	X	9
41	SENA	Colombia/Bogotá	Programa llamado Oferta Naranja donde se ofrecen cursos cortos presenciales que fortalecerán conocimientos y habilidades en las Industrias Creativas. En este caso ofrecen aproximadamente 60 cursos de innovación para emprendedores y diferentes herramientas en cuanto a tecnología, liderazgo efectivo entre otras.	En esta oferta encuentras más de 858 cursos divididos en 24 temáticas.	https://www.sena.edu.co/es-co/Noticias/Documents/OfertaNaranja_1XELModa_2.pdf -search=Innovación para microempresarios	GRATUITO	X	X	X	9

Item	Empresa / entidad que ofrece	Región /país	Descripción del servicio	Observaciones	Link	Oneroso /gratuito	Transf. Digital	Actual	Local	CONSTRUCCIÓN (1) AGRICULTURA (2) SOST. AMBIENTAL (3) CLÚSTER (4) COMPETITIVIDAD (5) LABORATORIO EMPRESARIAL (6) INTERNACIONALIZACION (7) BENEFICIOS ECONÓMICOS (8) TRANSF. DIGITAL (9)
42	MINISTERIO TIC	Colombia/Bogotá	El programa impulsa 'Garantías para su crecimiento: innovando en financiamiento PYME', que implementarán Banca de las Oportunidades, la Corporación Financiera Internacional (IFC), parte del Grupo Banco Mundial y USAID en alianza con Bancóldex, la iniciativa Clúster de Servicios Financieros de la Cámara de Comercio de Bogotá y Confecámaras.	Las garantías mobiliarias son un importante mecanismo para impulsar la inclusión financiera, ya que le permite a las Pymes, que no poseen bienes raíces, presentar otros tipos de garantías para obtener un préstamo del sector financiero. El acceso a financiamiento es fundamental para el sector productivo y gracias a la importancia de la pequeña y mediana empresa en las economías de América Latina y el Caribe, este programa tendrá el efecto de impulsar el desarrollo de Colombia y servirá como ejemplo a la región".	https://www.mincit.gov.co/prensa/noticias/industria/garantias-mobiliarias-para-ayudar-a-crecer-pymes	GRATUITO		X	X	3, 4 Y 8
43	MINISTERIO TIC	Colombia/Bogotá	Por medio de Bancóldex Mas Global se ofrecen servicios financieros y de asesoría de la empresa al puerto y del puerto al mundo, donde se busca resolver problemas que les impiden a las MiPymes crear, aumentar o diversificar productos y servicios para acceder al mercado internacional.	La convocatoria tiene como objeto resolver las limitaciones o barreras que presentan las MiPymes para ingresar a mercados internacionales de manera directa, con el fin de mejorar la capacidad empresarial exportadora de las MiPymes desarrollando procesos o productos (bienes o servicios) innovadores.	https://www.mincit.gov.co/ministerio/politica/politicas-sectoriales/colombia-exporta/agenda-transveral/productividad-e-innovacion-financiacion	GRATUITO		X	X	7 y 8
44	MINISTERIO TIC	Colombia/Bogotá	Comprende Iniciativa que fortalece el ecosistema de emprendimiento e innovación de país. Desde su plataforma digital y red de puntos físicos a nivel nacional y la construcción de espacios de colaboración logra: Centralizar la oferta para emprendedores. Crear y consolidar comunidades. Conectar y fortalecer aliados estratégicos. Mapear, fortalecer y conectar los ecosistemas regionales y sectoriales de emprendimiento e innovación del país.	Algunos propósitos son: Fortalecer el ecosistema de emprendimiento e innovación del país para consolidar a Colombia como el mejor país para emprender en América Latina. Articular y construir la oferta de programas, iniciativas y actividades de actores del ecosistema para que los emprendedores colombianos puedan acceder a ella. Ofrecer a los aliados estrategias que les permitan fortalecerse en emprendimiento e innovación, conectarse con el ecosistema y crear oferta de valor para este.	https://innpulsacolombia.com/cemprende/quienes-somos	GRATUITO	X	X	X	9

Item	Empresa / entidad que ofrece	Región /país	Descripción del servicio	Observaciones	Link	Oneroso /gratuito	Transf. Digital	Actual	Local	CONSTRUCCIÓN (1) AGRICULTURA (2) SOST. AMBIENTAL (3) CLÚSTER (4) COMPETITIVIDAD (5) LABORATORIO EMPRESARIAL (6) INTERNACIONALIZACION (7) BENEFICIOS ECONÓMICOS (8) TRANSF. DIGITAL (9)
45	MINISTERIO TIC	Colombia/Bogotá	Una estrategia de acompañamiento que tiene el Gobierno, con la que se apoya a la empresa de manera integral en tres frentes determinantes para la internacionalización: productividad y valor agregado, calidad y capacidad exportadora. Es así como buscan desarrollar procesos de modernización e innovación que le permita a las empresas colombianas llegar más fácilmente a los mercados internacionales	El programa tendrá un enfoque regional, con el fin de beneficiar a una gran parte del tejido empresarial nacional, a través de aliados locales como gobernaciones, alcaldías, cámaras de comercio, comisiones regionales de competitividad y gremios de la producción nacional, y un apoyo de la Universidad de los Andes, mediante un convenio con la CAF.	https://www.mincit.gov.co/prensa/noticias/comercio/lanzan-programa-fabricas-de-internacionalizacion	GRATUITO	X	X		7, 8 Y 9
46	MINISTERIO TIC	Colombia/Bogotá	Se trata del primer Acuerdo que se pacta con la región del Medio Oriente, donde no solo hay una población con alto poder adquisitivo, sino oportunidades para bienes industriales y agroindustriales. El objetivo es fortalecer sectores y tecnologías tales como agrotech, ciberseguridad, healthtech, edutech y fintech, entre otros, así como generar conexiones de valor que permitan potenciar los emprendimientos colombianos de alto impacto.	Se trata de un acuerdo de última generación que no se limita solo al comercio de bienes, sino que abre oportunidades en servicios, inversión, compras públicas y cuenta ya con un instrumento complementario sobre cooperación bilateral en investigación y desarrollo industrial. Facilitará la puesta en marcha de proyectos de cooperación en áreas como el desarrollo tecnificado de la agricultura, telecomunicaciones, salud pública, innovación, biotecnología y desarrollo de tecnologías ambientales.	https://www.mincit.gov.co/prensa/noticias/comercio/nueva-relacion-comercial-entre-colombia-e-israel	GRATUITO	X			3, 5 Y 9
47	MINISTERIO DE COMERCIO	Colombia/Bogotá	Artesanías colombianas de más de 20 talleres artesanales de 11 departamentos del país ahora están disponibles de manera permanente en la Tienda Oficial de Artesanías de Colombia vinculada a la plataforma de compras en línea de Mercado Libre. Los artesanos del país avanzan con la comercialización electrónica de sus productos y la reactivación económica del sector con la entrada en funcionamiento de la Tienda Oficial de Artesanías de Colombia en la plataforma de compras por internet Mercado Libre.	Artesanías de Colombia es la entidad vinculada al Ministerio de Comercio, Industria y Turismo que lidera la estrategia para preservar los oficios y la tradición artesanal en Colombia a través de programas de desarrollo productivo incluyente. Para ello promueve la innovación, la comercialización y las mejores prácticas, tendientes a lograr la sostenibilidad de la actividad artesanal y el bienestar de los artesanos.	https://www.mincit.gov.co/prensa/noticias/industria/artesanias-colombianas-en-mercado-libre	GRATUITO	X	X	X	9

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48	UNIVERSIDAD SERGIO ARBOLEDA	Colombia/Bogotá, Santa Marta	Fomentar la innovación y el espíritu emprendedor. Promover la creación de nuevas empresas innovadoras. Apoyar a las empresas innovadoras en los primeros años de su constitución. Fortalecer el tejido empresarial de la región.	Se ofrece: Capacitación Formación Asesoramiento Personalizado Mentoring Red de Contactos Búsqueda de Recursos Espacio de co-working a emprendedores con proyectos innovadores, que les permita convertir su idea en un proyecto empresarial	https://www.usergioarboleda.edu.co/sergio-ie/sergio-emprende-servicios-de-apoyo-a-emprendedores/ -programa_sergio_ie_lab	GRATUITO		X	X	5
49	UNIVERSIDAD DE LOS ANDES	Colombia/Bogotá	Entrega un portafolio de programas para pequeñas y medianas empresas (Pymes), incluidas las empresas de familia, diseñados y desarrollados para responder a las necesidades específicas de las organizaciones que buscan fortalecer su modelo de negocio, consolidar su posicionamiento en el mercado y generar un crecimiento rentable y sostenible en el tiempo, contribuyendo así a mejorar su posición competitiva en el entorno local y regional.	Entrega un diagnóstico del modelo de negocio y el de la gestión empresarial, que permitirá orientar esfuerzos de crecimiento. Desarrolla y fortalece las capacidades del equipo gerencial, por medio de herramientas que faciliten el proceso de implementación que conduzca al logro de los objetivos. Facilita y apoyas el proceso de implementación de la estrategia, orientada al crecimiento. Dentro del Plan de Formación y Contenido.	https://administracion.uniandes.edu.co/educacion-ejecutiva/programa-desarrollo-empresarial/programas-a-la-medida-para-pymes	GRATUITO		X	X	5
50	PONTIFICIA UNIVERSIDAD JAVERIANA	Colombia/Bogotá	Tiene como propósito identificar las capacidades de los grupos de investigación, y ver cómo estas pueden aportar al desarrollo. Consolidación de una cultura de innovación y emprendimiento al interior de la universidad que dinamice la maduración de las tecnologías derivadas de la actividad investigativa, para dar respuesta a las necesidades de la sociedad, apropiando las mejores prácticas para protección del conocimiento, su transferencia y comercialización y participando activamente en el ecosistema de innovación nacional y regional.	Promover la cultura de la innovación y fomentar el emprendimiento. Facilitar la transferencia de conocimiento y de tecnologías derivadas de la actividad investigativa. Asesorar y apoyar la gestión de proyectos de investigación e innovación. Diagnosticar las características del entorno científico, tecnológico y comercial para el direccionamiento estratégico de procesos de investigación e innovación. Realizar búsqueda de financiamiento que fortalezca la innovación, el emprendimiento y la transferencia de conocimientos y estimular la protección y gestión de la propiedad intelectual.	https://www.javeriana.edu.co/web/consultorias-desarrollo/desarrollo-innovacion - EMPRESAS	GRATUITO	X	X	X	9

Item	Empresa / entidad que ofrece	Región /país	Descripción del servicio	Observaciones	Link	Oneroso /gratuito	Transf. Digital	Actual	Local	CONSTRUCCIÓN (1) AGRICULTURA (2) SOST. AMBIENTAL (3) CLÚSTER (4) COMPETITIVIDAD (5) LABORATORIO EMPRESARIAL (6) INTERNACIONALIZACION (7) BENEFICIOS ECONÓMICOS (8) TRANSF. DIGITAL (9)
51	SENA	Colombia/Bogotá	Ayuda en la transformación digital, por medio de una estrategia de asistencia técnica virtual para aportar al fortalecimiento de las capacidades y modelos de negocio con los siguientes objetivos: Identificar oportunidades de modelos de negocios. Mejorar sus procesos. Aprovechar la tecnología al servicio de sus negocios.	1. Mejorar los niveles de transformación digital 2. Cualificar el talento humano. 3. Implementar mayores acciones de digitalización, coordinación, gestión y estrategia 4. Implementar mayores acciones de digitalización, coordinación, gestión y estrategia.	https://www.sena.edu.co/es-co/Empresarios/Paginas/mipymes_se_transforma.aspx	GRATUITO	X	X	X	9
52	MINISTERIO TIC	Colombia/Bogotá	24 centros de Transformación Digital Empresarial (CTDE), con los que los empresarios recibirán asesoría y acompañamiento técnico para implementar tecnologías en sus procesos productivos. Busca contribuir en el fortalecimiento de sus negocios, principalmente en este momento de reactivación económica que lidera el Gobierno Nacional.	Los Centros de Transformación Digital Empresarial son puntos clave para que la MiPymes de la región puedan ser más competitivas, logren mayores ganancias, generen más empleo y alcancen nuevos mercados".	https://www.mintic.gov.co/portal/inicio/Sala-de-prensa/MinTIC-en-los-medios/161393:Entran-en-operacion-24-centros-de-transformacion-para-apoyar-a-las-Pymes	GRATUITO	X	X	X	9
53	MINISTERIO TIC	Colombia/Bogotá	Un programa que busca brindarles las herramientas necesarias para que cuenten con un área responsable de la gestión de Investigación, Desarrollo e Innovación en su estructura organizacional, orientada al sector de tecnologías de información, y que les permita la especialización de su oferta. Los ciclos de innovación de las pymes de tecnologías de información son largos, lo que las hace menos competitivas, más aún, en un sector como el de tecnología que es tan dinámico y requiere de procesos de Investigación y Desarrollo Tecnológico en Innovación que conduzcan a la introducción de productos/servicios más sofisticados e innovadores	Las empresas están instaladas en Barranquilla, Bucaramanga, Cali, Ibagué, Popayán, Armenia y Villavicencio, y con ellas se iniciará un proceso para que cuenten con sistemas de gestión de I+D+i que les permita tener portafolios más especializados y con mayor valor agregado. Se prevé que este proceso intensivo sea de aproximadamente dos meses, tiempo durante el cual las empresas trabajarán en la creación de sus áreas de I+D+i, para que posteriormente comiencen a desarrollar productos mínimos viables para medir el impacto de la formación brindada en este proyecto Clúster 4.0.	https://www.mintic.gov.co/portal/inicio/Sala-de-prensa/Noticias/77636:53-empresas-de-todo-el-pais-aprenderan-como-innovar-en-tecnologia	GRATUITO	X	X	X	3, 4, 5 Y 9

Item	Empresa / entidad que ofrece	Región /país	Descripción del servicio	Observaciones	Link	Oneroso /gratuito	Transf. Digital	Actual	Local	CONSTRUCCIÓN (1) AGRICULTURA (2) SOST. AMBIENTAL (3) CLÚSTER (4) COMPETITIVIDAD (5) LABORATORIO EMPRESARIAL (6) INTERNACIONALIZACION (7) BENEFICIOS ECONÓMICOS (8) TRANSF. DIGITAL (9)
54	MINISTERIO TIC	Colombia/Bogotá	Programa que ofrece a los empresarios del país algunas herramientas digitales que facilitarán que las micro, pequeñas y medianas empresas hagan parte de la transformación digital. Micros a la web, My Teacher Is, BonERP, Building Happiness y Emlaze Pymes, aplicaciones desarrolladas por emprendedores que conocen las necesidades de los empresarios, están pensadas en ayudar a las MiPymes para que sean más organizadas y competitivas en la web.	Estas herramientas son una guía práctica para que el empresario pueda hacer más eficiente la administración de su negocio y aprenda cómo hacer estrategias de mercadeo masivas y asertivas para tener mayor control, visibilidad, ventaja competitiva y mayores ventas de sus productos y servicios en este mercado globalizado	https://www.mintic.gov.co/portal/inicio/Sala-de-prensa/Noticias/15667:Las-apps-que-le-ayudan-a-tener-control-de-su-negocio	GRATUITO	X	X	X	9
55	MINISTERIO TIC	Colombia/ Tunja, Bucaramanga	Busca incrementar el acceso, uso y apropiación de Internet en las MiPymes colombianas para aplicar las TIC en sus procesos de negocio, con el fin de incrementar su competitividad y productividad en el actual mercado globalizado, contribuyendo al cierre de la brecha digital entre las empresas.	Promueve la transformación de los modelos de negocio de las MiPymes colombianas a partir del uso estratégico de la tecnología. Buscamos que las empresas del país pasen del Internet del consumo, al Internet de la productividad y emprendan la ruta digital.	https://mintic.gov.co/portal/vivedigital/612/w3-propertyvalue-7235.html	GRATUITO	X	X	X	9
56	CÁMARA DE COMERCIO BUCARAMANGA	Colombia/Bucaramanga	Estrategia Centros de Desarrollo Empresarial: La estrategia brinda sin costo a las MiPymes santandereanas asesoría personalizada, acompañamiento a largo plazo y un direccionamiento estratégico basado en sus necesidades, para ello, se ha puesto a disposición de los empresarios un grupo de orientadores que los visitará en sus establecimientos y otorgará el servicio vía telefónica.	Los CDE adaptan el modelo Small Business Development Center (Centro de Desarrollo de Pequeñas Empresas), implementado en Estados Unidos desde hace más de 36 años, y cuentan con el apoyo del Ministerio de Comercio, Industria y Turismo e INNpulsa Colombia, se espera llegar a tener 150 centros en el territorio colombiano que puedan hacer parte de la red mundial que actualmente supera los mil.	https://www.camaradirecta.com/noticias//770-el-programa-que-impulsa-a-las-empresas-santandereanas-a-la-internacionalizacion/	GRATUITO		X	X	7

Anexo D. Convenios y herramientas para mejoras en capacidades de innovación

Ítem	Empresa / entidad que ofrece	Región /país	Descripción del servicio	Observaciones	Link	Gratuito	Transformación digital (1) sostenibilidad ambiental (2) competitividad (3) beneficios económicos (4)	vigentes	cobertura local (Colombia)
1	CÁMARA DE COMERCIO Y ALCALDIA DE MEDELLIN	Colombia/Medellín	Soluciones digitales busca que los empresarios incrementen sus ventas mediante canales digitales y tengan una operación fácil y confiable de sus tiendas virtuales donde las empresas intervenidas implementen o mejoren sus canales de e commerce o tiendas virtuales para así incrementar sus ventas mediante canales más económicos y fáciles de usar.	Entre los beneficios se encuentran: la cofinanciación de la implementación de las tiendas virtuales, participación en seminarios de marketing digital, talleres de formación para la implementación, y costos preferenciales en servicios de despacho. Requisitos: ser una MiPymes, tener un producto o servicio en etapa de comercialización, desarrollar una actividad económica en Medellín o uno de sus corregimientos, contar con registro en Cámara de Comercio o registro de Industria y Comercio del Municipio de Medellín.	https://www.camaramedellin.com.co/articulos-y-noticias/noticias/340-empresas-seran-apoyadas-en-el-proyecto-e-pymes-soluciones-digitales	X	1, 4	X	X
2	CÁMARA DE COMERCIO DE CALI	Colombia/Cali	Tienen alternativas de crédito. Desde la Gobernación del Valle se hizo un convenio con Bancóldex, a través de la línea Valle Responde, para inyectar $65.100 millones a la economía. Tienen capital semilla que puede inyectarse a las unidades productivas y empresas de cada municipio que promuevan el emprendimiento y la empleabilidad con el fin de que tengan materias primas, insumos, equipos y maquinaria.	El capital podrán usarlo para cubrir el pago de salarios o adquirir maquinaria, equipo o herramientas.	https://www.ccc.org.co/categoria_articulo/unidos-la-reactivacion/	X	3, 4	X	X
3	CÁMARA DE COMERCIO DE CALI	Colombia/Cali	Impulsar el desarrollo económico y la inclusión financiera en el presente y en el futuro, ya que resuelve las necesidades de ciertos	La entidad también promueve Ekinox, un instrumento de crédito inteligente mediante el cual los emprendedores pueden acceder a recursos para potenciar su	https://www.ccc.org.co/categoria_articulo/las-fintech-se-abre-camino-valle/	X	3, 4	X	X

Ítem	Empresa / entidad que ofrece	Región /país	Descripción del servicio	Observaciones	Link	Gratuito	Transformación digital (1) sostenibilidad ambiental (2) competitividad (3) beneficios económicos (4)	vigentes	cobertura local (Colombia)
			segmentos como el de las pequeñas y medianas empresas, que no siempre pueden acceder a los mecanismos de financiamiento de la banca tradicional. Acceso a capital semilla. Algunas más se dedican a ofrecer factoring, una herramienta atractiva que facilita a las empresas generar flujo de caja para capital de trabajo a corto plazo.	crecimiento, obtener acompañamiento especializado en el proceso y generar conexiones de valor. De la mano con Finaktiva, en los últimos tres años se han desembolsado más de $7.000 millones a cerca de 44 empresarios.					
4	CÁMARA DE COMERCIO DE CALI	Colombia/Cali	Coworking o lugares que permiten a los profesionales independientes, emprendedores y pymes, compartir en un mismo espacio de trabajo el desarrollo de proyectos independientes, trabajando en conjunto con otros emprendedores para desarrollar ideas o crear alianzas entre ellos. Construyen un clúster de servicios y de capacidades diferentes enfocadas en industrias creativas o TIC (tecnologías de la información e innovación) generalmente, para enfrentar la demanda de servicios de estas industrias de manera consolidada en su país, lo que ha traído grandes beneficios para la comunidad mexicana.	Todos aquellos que estén dispuestos a participar en el desarrollo de ideas, a crear e innovar en proyectos de emprendimiento de sus empresas en estado de inicio o aceleración, pueden ser parte de un coworking. El modelo del coworking ha contribuido a la evolución de los procesos laborales en distintos países como: España, Estados Unidos, Alemania y Australia; hoy en día países como México y Colombia implementan estos espacios de trabajo colaborativo para impulsar emprendimientos y proyectos de desarrollo e innovación.	https://www.ccc.org.co/coworking-para-trabajar-diferent/	X	1	X	

Ítem	Empresa / entidad que ofrece	Región /país	Descripción del servicio	Observaciones	Link	Gratuito	Transformación digital (1) sostenibilidad ambiental (2) competitividad (3) beneficios económicos (4)	vigentes	cobertura local (Colombia)
5	CÁMARA DE COMERCIO DE BARRANQUILLA	Colombia/Barranquilla	Los beneficios tributarios de la innovación son un instrumento eficaz para fomentar la inversión en I+D+i y promover la competitividad en las empresas y el desarrollo de investigaciones de alto impacto para el país	Estos beneficios permiten el retorno de hasta un 50% de la inversión realizada en proyectos de Ciencia, Tecnología e Innovación.	https://www.camarabaq.org.co/beneficios-tributarios-de-minciencias-como-recuperar-la-inversion-empresarial-en-ciencia-tecnologia-e-innovacion/	X	1, 4	X	X
6	MINISTERIO TIC	Colombia/ Bogotá	Promoverá que emprendedores colombianos, vinculados a las iniciativas del ministerio TIC, aprovechen las oportunidades de la Bolsa de Valores con su plataforma digital a2censo, una herramienta colaborativa de inversión para financiar a emprendimientos y pequeñas y medianas empresas, y conectarlos con las personas que tienen los recursos financieros necesarios para invertir y potenciar proyectos. Igualmente, con a2censo diferentes inversionistas podrán encontrar una alternativa para conectarse y financiar sus emprendimientos y empresas colombianas.	Promueve la transformación de los modelos de negocio de las MiPymes colombianas a partir del uso estratégico de la tecnología. Busca que las empresas del país pasen del Internet del consumo, al Internet de la productividad y emprendan la ruta digital.	https://www.mintic.gov.co/portal/inicio/Sala-de-Prensa/Noticias/151414:MinTIC-y-Bolsa-de-Valores-de-Colombia-firman-memorando-de-entendimiento-para-fortalecer-la-financiacion-colaborativa-de-emprendimientos-en-el-pais	X	1	X	X
7	MINITERIO TIC	Colombia	Un convenio marco que busca, mediante el fortalecimiento de ecosistema científico, hacer del país una potencia comprometida con la protección del agua, la energía y la biodiversidad. El convenio apunta al fortalecimiento de la investigación, el desarrollo tecnológico y la innovación para la transición	Nosotros queremos que buena parte de todas estas innovaciones a las que se llegue como consecuencia de este convenio también sirvan para las pequeñas y medianas empresas. Este convenio es producto de la colaboración, la cooperación y de la construcción de sinergia entre el Estado y el sector productivo. Necesitamos hacer más alianzas como estas, que no	https://minciencias.gov.co/sala_de_prensa/vicepresidencia-minciencias-y-ecopetrol-se-unen-para-desarrollar-tecnologias-cara-la	X	2	X	X

Ítem	Empresa / entidad que ofrece	Región /país	Descripción del servicio	Observaciones	Link	Gratuito	Transformación digital (1) sostenibilidad ambiental (2) competitividad (3) beneficios económicos (4)	vigentes	cobertura local (Colombia)
			energética, con foco en la producción y aprovechamiento del hidrógeno como combustible limpio del futuro, así como la captura de dióxido de carbono y su conversión a productos valiosos.	solamente ponen recursos, sino que están aportando a la misión de bioeconomía, cambio climático y agua.					

Anexo E. Estudios sobre mejoras en capacidades de innovación

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
1	Spatial Mechanisms of Regional Innovation Mobility in China,	Gao, X., & Zhai, K. (2021). Spatial mechanisms of regional innovation mobility in china. Social Indicators Research, 156(1), 247-270. doi:10.1007/s11205-021-02638-2	2021	Against the background of rapid improvement in economic growth and innovation capabilities, China is facing with development gaps and regional disparities. Based on the solid theoretical foundations and literature review, we aim to investigate the spatial mechanisms of regional innovation mobility at China's provincial scale. Using patent counts from 2000 to 2015 modelled by Geographical Weighted Regression (GWR), the study examines the determinants of regional innovation mobility from the social, economic, natural and institutional perspectives. Through highlighting innovation mobility, this study regards innovation as a dynamic economic phenomenon rather than a static measure, and visualization results are clearly presented to display the overall landscape of China's innovation mobility. Furthermore, in the analysis, we consider the effect of physical factors on regional innovation and empirically examine their roles. Our findings indicate that the relationships between regional innovation mobility and its determinants are spatially nonstationary and heterogenic. The study is of great significance to understand regional development differences and formulate reasonable regional policies. ©	Regional innovation mobility · Spatial mechanisms · Disparities · GWR model · Visualization maps · China	To investigate the spatial mechanisms of regional innovation mobility at China's provincial scale.	This study uses patent counts from 2000 to 2015 modeled by Geographic Weighted Regression (GWR) and examines the determinants of regional innovation mobility from social, economic, natural, and institutional perspectives.	Show the big picture of innovation mobility in China.	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
2	The Improvement of Collaborative Networks to Increase Small and Medium Enterprises (SMEs) Performance,	Mulyana, M., & Wasitowati, W. (2021). The improvement of collaborative networks to increase small and medium enterprises (SMEs) performance. Serbian Journal of Management, 16(1), 213-229. doi:10.5937/sjm16-24369	2021	This study aims to examine the effect of collaborative networks on business performance. This study tries to find a collaborative network format that can improve business performance. The respondents in this study were 295 owners of the fashion sector SMEs in Central Java, Indonesia. Data analysis used the Structural Equation Modeling (SEM) approach. The results showed that collaborative networks (CN) significantly influence innovation capability (IC), competitive advantage (CA), and business performance (BP). Furthermore, the capability of innovation and competitive advantage also significantly influence business performance. Innovation capabilities and competitive advantages can mediate the relationship between collaborative networks and business performance.	Collaborative networks innovation capabilities competitive advantage business performance	To examine the effect of collaborative networks on business performance	Data analysis used the Structural Equation Modeling (SEM) approach. The results showed that collaborative networks (CN) significantly influence innovation capability (IC), competitive advantage (CA), and business performance (BP)	To find a collaborative network format that can improve business performance.	Java Indonesia

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
3	Research on Improving Strategy of Technology Innovation Capability of Equipment Manufacturing Industry in Liaoning Province,	Fan, X., Liu, Y., & Dai, M. (2021). Research on improving strategy of technology innovation capability of equipment manufacturing industry in liaoning province. Paper presented at the Journal of Physics: Conference Series, , 1885(2) doi:10.1088/1742-6596/1885/2/022004	2021	With the development of the economy and the advancement of technology, major enterprises are also under heavy competitive pressure while welcoming huge opportunities for development. With the improvement of the global value chain system, all industries have realized the importance of improving technological innovation capabilities. As a traditional industrial province in our country, Liaoning Province has made some progress in technological innovation in the equipment manufacturing industry, but still has the problem of weak technological innovation capabilities. This paper takes the equipment manufacturing industry in Liaoning Province as the research object. This paper summarizes and analyzes the development status and technological innovation status of the equipment manufacturing industry in Liaoning Province. The author uses the entropy method to evaluate the technological innovation capability of the equipment manufacturing industry in Liaoning Province, and compares and analyzes it from the vertical and horizontal directions. At the same time, using the means of empirical analysis, with the help of Eviews software, a multiple linear regression model was constructed to study the factors affecting the technological innovation capability of Liaoning's equipment manufacturing industry. Finally, combined with the empirical research results, the countermeasures and suggestions for improving the technological innovation capability of Liaoning's equipment manufacturing industry are put forward. © Published under licence by IOP Publishing Ltd.	Competitive pressure Development status Empirical analysis Equipment manufacturing industries Multiple linear regression models Technological innovation Technological innovation capability Technology innovation	To study the factors affecting the technological innovation capability of Liaoning's equipment manufacturing industry. Finally, combined with the empirical research results, the countermeasures and suggestions for improving the technological innovation capability of Liaoning's equipment manufacturing industry are put forward.	The author uses the entropy method to evaluate the technological innovation capability of the equipment manufacturing industry in Liaoning Province, and compares and analyzes it from the vertical and horizontal directions.	Improve the competitiveness of companies while taking advantage of enormous development opportunities	Liaoning China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
4	Research on Collaborative Innovation Platform of Internet of Things Industry Based on Data Mining Technology,	Wang, Y., & Ku, J. (2021). Research on collaborative innovation platform of internet of things industry based on data mining technology. Paper presented at the Journal of Physics: Conference Series, , 1881(4) doi:10.1088/1742-6596/1881/4/042072	2021	The Internet era has entered a new historical development stage, and the technology and application of Internet of Things have become the new core of the future development of information society. Information technology has been integrated into every corner of production and life, and various information industries are constantly undergoing transformation, facing new opportunities and challenges. To enhance the technological innovation capability of China's Internet of Things industry from the perspective of collaborative innovation, the key is to face the characteristics and needs of the Internet of Things industry and explore the interactive mode of process synergy and behavior synergy in technological collaborative innovation. There are more and more data generated in the process of human interaction with sensors, and more intelligent applications can be developed through deep data mining and analysis. This paper focuses on collaborative innovation of Internet of Things and smart service industry, and studies the combination mode of collaborative innovation of Internet of Things and smart service industry in China based on data mining technology, in order to provide valuable theoretical basis for the development of smart service industry and the improvement of collaborative innovation of Internet of Things in China. © Published under licence by IOP Publishing Ltd.	Collaborative innovation Data mining technology Historical development Information industry Information society Intelligent applications Internet of things industries Technological innovation capability	To studie the combination mode of collaborative innovation of Internet of Things and smart service industry in China based on data mining technology, in order to provide valuable theoretical basis for the development of smart service industry and the improvement of collaborative innovation of Internet of Things in China.	This paper focuses on collaborative innovation of Internet of Things and smart service industry, and studies the combination mode of collaborative innovation of Internet of Things and smart service industry in China based on data mining technology, in order to provide valuable theoretical basis for the development of smart service industry and the improvement of collaborative innovation of Internet of Things in China	Facing new opportunities and challenges in the age of the Internet and the application of the Internet of Things.	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
5	The impact of government subsidies on the green innovation capability of new energy automobile companies,	Lu, Y., Liu, Q., & Li, J. H. (2021). The impact of government subsidies on the green innovation capability of new energy automobile companies. Paper presented at the IOP Conference Series: Earth and Environmental Science, , 680(1) doi:10.1088/1755-1315/680/1/012113	2021	The rapid development of the new energy automobile industry is inseparable from the support of government policies. The subsidy policy is an important policy tool that promotes the improvement of new energy green innovation capabilities to a certain extent. This paper divides government subsidies into two types, direct subsidies and indirect subsidies, and uses a panel regression model to compare and analyze the impact of the two types of subsidies on the green innovation capabilities of enterprises. The research results show that direct subsidies have a greater impact on the green innovation input of new energy companies than indirect subsidies, while indirect subsidies have a greater impact on new energy green innovation output than direct subsidies. © Published under licence by IOP Publishing Ltd.	Automobile companies Compare and analyze Government subsidies Green innovations New energies Policy tools Regression model Research results	To compare and analyze the impact of the two types of subsidies on the green innovation capabilities of enterprises.	The study looks at the rapid development of the new energy automobile industry and in the face of government policy support.	Incentivize subsidy policy as an important policy tool that promotes the enhancement of new energy eco-innovation capabilities to some extent.	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
6	High-speed rail Accessibility and Innovation Spillover in Cities along the Route Based on a Spatial Dubin Model,	Zhang, C., Zhang, M., & Tang, E. (2021). High-speed rail accessibility and innovation spillover in cities along the route based on a spatial dubin model. Paper presented at the Proceedings - 2021 2nd International Conference on Urban Engineering and Management Science, ICUEMS 2021, 72-76. doi:10.1109/ICUEMS52408.2021.00022	2021	Based on the panel data of 247 prefecture-level and above cities in China from 2006 to 2016, this paper establishes a spatial Dubin model (SDM) to study the spatial spillover effect and mechanism of the improvement of inter-city accessibility caused by high-speed rail on urban innovation capabilities. The study found that the improved accessibility of high-speed rail improves the city's innovation capabilities as a whole, and has a significant positive spillover effect on neighboring cities. In the sub-sample regression of Tier 1 to Tier 5 cities of different scales, the spatial spillover effect of high-speed rail accessibility on urban innovation capabilities is the most significant in Tier 1 and Tier 5 cities. The text further construct the provincial-inverse distance nested spatial weight matrix to discuss the impact of administrative divisions on urban innovation, and find that the innovation factors within the province are more mobile.	Air-pollution-intensive industry Driving factors Industrial distribution Spatial correlation analysis Spatial Durbin model Zhejiang Province	To study the spatial spillover effect and mechanism of the improvement of inter-city accessibility caused by high-speed rail on urban innovation capabilities.	The study found that the improved accessibility of high-speed rail improves the city's innovation capabilities as a whole, and has a significant positive spillover effect on neighboring cities.	To discuss the impact of administrative divisions on urban innovation, and find that the innovation factors within the province are more mobile.	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
7	Empirical analysis of the construction of the tea industry ecosystem from the perspective of synergy,	Ma, Y. -., Xie, J. -., Mei, D., & Chen, Y. -. (2021). Empirical analysis of the construction of the tea industry ecosystem from the perspective of synergy. Journal of Agricultural Resources and Environment, 38(2), 344-354.	2021	Abstract:With the adjustment and optimization of industrial structure,various elements of industry have gradually changed from an unbalanced state of competition to a structure of interdependence and synergy. Based on the perspective of collaborative symbiosis,this study took the Fujian characteristic tea industry as the research object,and assessed the influence path of producers,consumers,and decomposers on the coordinated development of the tea industry ecosystem. The results showed that producers' innovation capabilities and consumer demand levels had significant positive impacts on the coordinated evolution of the tea industry ecosystem. Financial services, platform services,and other service had no direct impact on the coordinated evolution of the tea industry ecosystem. However, it indirectly affects the co evolution level of tea industry ecosystem by affecting industrial symbiosis, and industrial symbiosis played a full intermediary role. Based on the above,countermeasures and suggestions are proposed in terms of improvement of producers' innovation capabilities, consumer demand orientation,improvement of service support,and construction of resource benefit sharing mechanisms. © 2021, Editorial Board of Journal of Agro-Environment Science. All rights reserved.	Financial services Platform services Synergy symbiosis Tea industry ecosystem	To analyze the Fujian characteristic tea industry as the research object, and assessed the influence path of producers,consumers,and decomposers on the coordinated development of the tea industry ecosystem.	The results showed that producers' innovation capabilities and consumer demand levels had significant positive impacts on the coordinated evolution of the tea industry ecosystem.	Propose countermeasures in terms of improving the innovation capacities of producers, targeting consumer demand, improving the support service and building mechanisms for the distribution of resource benefits.	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
8	Development of human capital in indian information industry,	Yang, W., & Dai, J. (2021). Development of human capital in indian information industry doi:10.1007/978-3-030-53980-1_140	2021	Informatization affects the development of each industry momentarily, prompts the continuous transformation, upgrading and transformation of traditional industries, and promotes the improvement of technological innovation capabilities and labor quality through informatization. Informatization is undoubtedly the engine driving economic growth. India's human capital in information industry has brought about the vigorous development of India's emerging industries. This article explores the background of the development of human capital in Indian information industry, and points out that India's promotion of the information industry is a combination of market demands and its own development advantages. At the same time, human capital in India's information industry has also promoted India's economic growth. Then, the article emphasizes that in order to avoid the outflow of excellent human capital in information industry, the Indian government should introduce corresponding measures and policies to reverse this trend. Finally, it is worthy of learning from Indian experience by China and other developing countries. © The Editor(s) (if applicable) and The Author(s), under exclusive license to Springer Nature Switzerland AG 2021.	Continuous transformations Corresponding measures Economic growths Indian government Information industry Informatization Technological innovation capability Traditional industry	To explore the background of the development of human capital in Indian information industry	The article supports how human capital in the information industry in India has promoted economic growth in India, which is why mechanisms must be sought to retain that human capital.	Minimize the outflow of excellent human capital in the information industry	India

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
9	Insights on impact from the development, delivery, and evaluation of the CLEAR IDEAS innovation training model,	Birdi, K. (2021). Insights on impact from the development, delivery, and evaluation of the CLEAR IDEAS innovation training model. European Journal of Work and Organizational Psychology, 30(3), 400-414. doi:10.1080/1359432X.2020.1770854	2021	The increasing pressure on organizations to innovate more effectively in what they deliver and how they work means there is a distinct need for interventions that enhance the innovation capabilities of employees. This paper, therefore, describes insights from the development, delivery, and impact evaluation of a research-based innovation training model (CLEAR IDEAS) designed to improve both the idea generation and idea implementation competencies of trainees. How key findings from the creativity and innovation literature were turned into a practical model and its operationalization in practice are first discussed. This is followed by presenting a longitudinal evaluation of the training intervention with 151 public sector leaders. Findings showed that the model was well received, led to significant improvements in innovation competencies and resulted in certain trainees undertaking a range of actions to introduce innovations back in the workplace while others failed to apply their learning. Longer-term data provided several examples of subsequent notable ultimate impacts on organizations' functioning and public service delivery. Finally, reflections on key training, trainee, task, and work environment facilitators and inhibitors of innovation training impact are offered. © 2020 Informa UK Limited, trading as Taylor & Francis.	Creativity evaluation impact innovation training	To describe insights from the development, delivery, and impact evaluation of a research-based innovation training model (CLEAR IDEAS) designed to improve both the idea generation and idea implementation competencies of trainees.	A longitudinal evaluation of the training intervention with 151 public sector leaders is presented. The results showed that the model was well received, led to significant improvements in innovation competencies, and resulted in some apprentices taking a series of actions to introduce workplace innovations, while others did not apply their learning.	Identify key enablers and inhibitors of the impact of innovation training, trainers, tasks and work environments.	Inglaterra

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
10	Weighing Giants: Taking Stock of the Expansion of China's Defence Industry,	Béraud-Sudreau, L., & Nouwens, M. (2021). Weighing giants: Taking stock of the expansion of China's defence industry. Defence and Peace Economics, 32(2), 151-177. doi:10.1080/10242694.2019.1632536	2021	Despite China's rise on the world stage and rapid improvements in the quality and quantity of its arms production, little is truly known about Chinese defence groups' performance. The existing literature suffers from a significant gap: there has been no measure of how much the Chinese defence industry is worth financially, in comparison to other leading defence firms. There is also a dearth in detailed assessments of China's defence-industrial and defence-innovation capacities. Therefore, this article seeks to provide reliable estimates of Chinese defence enterprises' revenue derived from their military-related activities. In discussing our results, we also show that the current Chinese leadership's defence-industry reforms specifically target self-identified shortcomings and in doing so, strives to bring Chinese defence companies to the top of the world's defence-technological innovation standards. This will contribute to the debate on China's defence-innovation capabilities and on the Chinese defence industry's remaining weaknesses in that regard. © 2019 Informa UK Limited, trading as Taylor & Francis Group.	China military-industrial complex	To contribute to the debate on China's defence-innovation capabilities and on the Chinese defence industry's remaining weaknesses in that regard	This work proposes a precise analysis of the current strengths and weaknesses of China's defense, technology and industrial base (DTIB).	Determine how much the Chinese defense industry is worth financially, compared to other leading defense firms.	China
					civil–military integration				
					defence economics				
					defence industry				
					Defence innovation				

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
11	Supply chain collaboration and innovation capability: the moderated mediating role of quality management,	Liao, S. -., Hu, D. -., & Shih, Y. -. (2021). Supply chain collaboration and innovation capability: The moderated mediating role of quality management. Total Quality Management and Business Excellence, 32(3-4), 298-316. doi:10.1080/14783363.2018.1552515	2021	With the establishment of a collaboration supply chain mechanism enterprises can obtain greater opportunities to prosper within the current highly competitive business environment. These enterprises can then obtain sustainable competitive advantage and business excellence based on superior supply chain capabilities and improvement of operating costs, product quality, and innovation capabilities. The objects of this study are the upstream, midstream, and downstream suppliers of the supply chain for Taiwan's optoelectronics industry. A total of 454 effective questionnaires were recovered. The relationships of supply chain collaboration, supply chain capability, and innovative capability were tested through a structural equation model. Furthermore, quality management was used to explore the existence of the effect of moderated mediation in the research model. Finally, it was found that supply chain collaboration can directly and indirectly have a positive influence on innovation capability, and the effect of moderated mediation does exist in the research model. © 2018 Informa UK Limited, trading as Taylor & Francis Group.	Innovation capability moderated mediation model quality management supply chain capability supply chain collaboration	To use the quality management to explore the existence of the effect of moderated mediation in the research model.	The objects of this study are the upstream, midstream, and downstream suppliers of the supply chain for Taiwan's optoelectronics industry. A total of 454 effective questionnaires were recovered. The relationships of supply chain collaboration, supply chain capability, and innovative capability were tested through a structural equation model.	Gain sustainable competitive advantage and business excellence based on superior supply chain capabilities and improved operating costs, product quality, and innovation capabilities	Taiwan
12	How to form the leading innovation capability a multi-case study based on haier and Huawei,	Lou, K., & Liu, H. (2020). How to form the leading innovation capability a multi-case study based on haier and huawei. Paper presented at the E3S Web of Conferences, , 214 doi:10.1051/e3sconf/202021402001	2020	This paper analyzes the innovation practices of Haier Group and Huawei Company since the leading innovation. On the basis of the existing research on	Culture of innovations Formation paths Innovation abilities Innovation practices Leading innovations Open innovation Social responsibilities	To explore the formation path of leading innovation ability.	The study proves that stimulating the innovation behavior of employees can stimulate the enthusiasm and creativity of innovation of all employees, and reserve the power of innovation for the leading innovation of companies, which is an	Analyze the innovation practices of Haier Group and Huawei Company since the leading innovation. On the basis of the existing research on "innovation leading", this paper makes full use of the theoretical	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
					Value orientation		important factor in promoting training of the leading innovation capacity of companies.	knowledge of original innovation and meaningful innovation	
13	Mechanism to improve the innovation capability of late-developing complex product manufacturing enterprises based on longitudinal case study of CRRC,	Haibing, L., & Yuyue, K. (2020). Mechanism to improve the innovation capability of late-developing complex product manufacturing enterprises based on longitudinal case study of CRRC. Paper presented at the E3S Web of Conferences, , 214 doi:10.1051/e3sconf/202021402052	2020	Although China's manufacturing level has made great progress in recent years, the situation that key core technologies are controlled by others has not fundamentally changed. The improvement of innovation capability greatly affects the development of manufacturing enterprises. Therefore, based on the longitudinal case study of CRRC, this paper attempts to analyze the mechanism of innovation capability improvement of late-developing complex product manufacturing enterprises. The results show that the innovation capability promotion mechanism of late-developing complex product manufacturing enterprises includes power traction mechanism, collaboration innovation mechanism, talent cultivation mechanism and knowledge governance mechanism. Based on this, this paper believes that in the process of development, the late-developing complex product manufacturing enterprises need to carry out corresponding personnel training and knowledge management with the help of the state, under a good environment in the industry and on the premise of maintaining their own brands. © The Authors, published by EDP Sciences, 2020.	Collaboration innovations Complex products Core technology Innovation capability Knowledge governance	To analyze the mechanism of innovation capability improvement of late-developing complex product manufacturing enterprises	The results show that the innovation capability promotion mechanism of late-developing complex product manufacturing enterprises includes power traction mechanism, collaboration innovation mechanism, talent cultivation mechanism and knowledge governance mechanism.	Improve the innovation capabilities of Late complex product manufacturing companies including a power traction mechanism that brings innovation, a collaborative innovation mechanism and a talent training mechanism to provide technology, talents, information, funds and other support for complex	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
					Longitudinal case study			product manufacturing companies and knowledge governance mechanism to keep knowledge in a virtuous state circle.	
					Manufacturing enterprise				
					Talent cultivations				
14	The government R&D funding and management performance: The mediating effect of technology innovation,	Jin, S., & Lee, K. (2020). The government R&D funding and management performance: The mediating effect of technology innovation. Journal of Open Innovation: Technology, Market, and Complexity, 6(4), 1-13. doi:10.3390/joitmc6040094	2020	Korea's small-and medium-sized enterprises are desperate to improve their performance through engaging in technological innovation, due to the fierce competition prevalent in a low growth economic environment. However, most small-and medium-sized enterprises are having difficulty responding to changes in the economic environment due to the challenge of developing their own technologies and their limited resources. The aim of this study is to assess whether government financial support for R&D aimed at small-and medium-sized enterprises has contributed to improvements in their business management performance. The sample of this study was comprised of 105 KOSDAQ-listed small-and medium-sized enterprises with experience in technology development. The empirical analysis was conducted on the basis of the mediating effect measurement method of Baron and Kenny (1986). It was found that company technological innovation capabilities have a positive effect on management performance, and in particular, that the majority of companies that received government financial support for R&D have improved their management performance. Therefore, it is recommended that small-and medium-sized companies take an active part in various government R&D financial support programs and make efforts to strengthen their technological innovation in areas such as their product service and process innovation capabilities. © 2020 by the authors. Licensee MDPI, Basel, Switzerland.	Mediating effects	Investigate whether marketing innovation, defined as improvements to the marketing mix, can help resist the challenges of operating in today's economic conditions	La muestra de este estudio estuvo compuesta por 105 pequeñas y medianas empresas que cotizan en KOSDAQ con experiencia en desarrollo de tecnología. El análisis empírico se realizó sobre la base del método de medición del efecto mediador de Baron y Kenny	Assess whether the government's financial support for R&D directed at small and medium-sized enterprises has contributed to improving their performance in business management.	Korea
					R&D funds				
					Technological innovation capability				

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
15	Product Market Competition and RD Investment Empirical Evidence Based on the Fixed Effect Model,	Wu, Q., Ma, Z., & Zhang, X. (2020). Product market competition and RD investment empirical evidence based on the fixed effect model. Paper presented at the Proceedings - 2020 2nd International Conference on Economic Management and Model Engineering, ICEMME 2020, 814-817. doi:10.1109/ICEMME51517.2020.00166	2020	This paper takes 2010-2018 Shanghai and Shenzhen A-share state-owned listed companies as a sample, from the perspective of internal governance and external environment, respectively, to study the influencing factors of the company's innovation capability by means of the fixed-effect model. We find that in state-owned enterprises, there is an inverted U-shaped relationship between product market competition and enterprise innovation capabilities and the diversified ownership structure can significantly promote the improvement of corporate innovation capabilities. Further research indicates that the diversified ownership structure has a positive moderating effect on the relationship between product market competition and corporate innovation. © 2020 IEEE.	Corporate innovation External environments Fixed effect models Innovation capability Moderating effect Ownership structure Product market competitions State owned enterprise	This paper takes 2010-2018 Shanghai and Shenzhen A-share state-owned listed companies as a sample, from the perspective of internal governance and external environment, respectively, to study the influencing factors of the company's innovation capability by means of the fixed-effect model.	The study showed that in SOEs, there is an inverted U-shaped relationship between product market competition and business innovation capabilities, and the diversified ownership structure can significantly promote the improvement of business innovation capabilities.	Study the relationship between the product market competition, diversification of the ownership structure and business innovation capabilities.	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
16	The structural capital, the innovation and the performance of the industrial SMES,	Beltramino, N. S., García-Perez-de-Lema, D., & Valdez-Juárez, L. E. (2020). The structural capital, the innovation and the performance of the industrial SMES. Journal of Intellectual Capital, 21(6), 913-945. doi:10.1108/JIC-	2020	Purpose: The objective of this study is to analyze the influence of the structural capital of SMEs in the capacity of innovation and organizational performance, in the context of an emerging country. Design/methodology/approach: The sample consisted of 259 industrial SMEs from the province of Córdoba Argentina. The data was analyzed by Partial Least Squares Structural Equation Modeling (PLS–SEM). Findings: The study provided evidence that acquisition of information and knowledge management, organizational culture and structure, systems and processes have positive and significant effects on the innovation capacity of SMEs. Only the communication and cohesion component did not show positive and significant results on it. It also showed a positive and significant relationship between the capacity for innovation in processes and performance, contributing to the scarce empirical literature in the context of SMEs. Research limitations/implications: The research exposes some limitations that uncover a path for the development of future lines of research. In the first place, the work focuses on the use of a single source of information, the consultation at the managerial level of the company, without considering other representative variables to measure the capacity for innovation. Second, the study covered only companies in the industrial sector and country. Future studies should focus on other sectors and countries. Practical implications: The results of the study can have important practical implications for the owners and managers of SMEs. The results offer a vision of the dimensions of structural capital that most influence the innovative capacity of the organization. This is especially useful given that in the context of Argentina there is a low level of knowledge and structural capital is key to being more competitive. The managers of SMEs can thus increase the innovative potential of the company and favor the acquisition of information and knowledge and improve its processes and systems to contribute to the development of innovation capabilities to make SMEs more competitive. Social implications: The results obtained can be useful for those responsible for making public policy decisions, since in the knowledge of the economy to maintain a developed state and nation, it is necessary to include as one of the main issues on the national agenda the improvement of intellectual capital of its people to promote the competitiveness of companies. Originality/value: The research contributes to the development of intellectual	Acquisition of information and knowledge management Communication Innovation	The objective of this study is to analyze the influence of the structural capital of SMEs in the capacity of innovation and organizational performance, in the context of an emerging country.	The sample consisted of 259 industrial SMEs from the province of Córdoba Argentina. The data was analyzed by Partial Least Squares Structural Equation Modeling (PLS–SEM).	Increase the innovative potential of SME managers and favor the acquisition of information and knowledge and improve their processes and systems to contribute to the development of innovation capacities to make SMEs more competitive.	Argentina

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
				capital literature focused on the generation of innovation and performance in the perspective of SMEs in emerging countries. © 2020, Emerald Publishing Limited.	Organizational culture				
					Performance				
					Structural capital				
17	Evaluation and analysis of county science and technology innovation ability in Shijiazhuang,	Li, R., & Shen, Y. (2020). Evaluation and analysis of county science and technology innovation ability in shijiazhuang. Paper presented at the Conference Proceedings of the 8th International Symposium on Project Management, ISPM 2020, 1263-1268.	2020	This paper constructs an evaluation index system of Shijiazhuang county science and technology innovation ability from four aspects: innovation environment, innovation input, innovation output, and innovation performance. The fuzzy comprehensive evaluation method is used to conduct an empirical evaluation and comprehensive analysis of the innovation capabilities of 21 counties (cities, districts) in Shijiazhuang. Finally, aiming at the key factors that restrict the improvement of county innovation, put forward some suggestions to promote the development of county science and technology innovation capability. © 8th International Symposium on Project Management, ISPM 2020. All rights reserved.	Comprehensive analysis	To construct an evaluation index system of Shijiazhuang county science and technology innovation ability from four aspects: innovation environment, innovation input, innovation output, and innovation performance.	The study used the fuzzy comprehensive assessment method to conduct an empirical assessment and comprehensive analysis of the innovation capabilities of 21 counties (cities, districts) in Shijiazhuang. Finally, pointing to the key factors restricting the improvement of the county's innovation, he presented some suggestions to promote the development of the county's scientific and technological innovation capacity.	Conduct an empirical assessment and comprehensive analysis of the innovation capacities of 21 counties (cities, districts) in Shijiazhuang.	China
					Evaluation and analysis				
					Evaluation index system				
					Fuzzy comprehensive evaluation method				
					Innovation capability				
					Innovation environments				

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
18	The Effect of Venture Capital on Enterprise Benefit According to the Heterogeneity of Human Capital of Entrepreneur,	Jin, X., Zheng, P., Zhong, Z., & Cao, Y. (2020). The effect of venture capital on enterprise benefit according to the heterogeneity of human capital of entrepreneur. Frontiers in Psychology, 11 doi:10.3389/fpsyg.2020.01558	2020	This research was conducted for the purpose of exploring the role of venture capital (VC) based on the heterogeneity of human capital in the process of transforming innovation capabilities of enterprise into enterprise benefits and providing a reference for further research on enterprise performance development. In this study, 399 listed companies that obtained VC before 2018 from the China VC database and Wind China financial database were selected as research objects, and relevant data of patent number, return on equity, Tobin's Q ratio, and research and development (R&D) investment ratio of each enterprise were obtained. Enterprise innovation ability was introduced to construct the relationship model of human-capital VC, enterprise innovation ability, and enterprise benefit, and the relationship between human-capital VC, enterprise innovation ability, and enterprise benefit was analyzed by the multiple-regression model. The results show that the number of patents of invested enterprises has an extremely significant positive correlation with the human capital index ($P < 0.001$), and a significant positive correlation with the education level of personnel, the proportion of engineering professionals ($P < 0.05$). The return on equity and Tobin's Q ratio of enterprises have extremely significant positive correlations with the number of patents of invested enterprises ($P < 0.001$) and have a significant positive correlation with the number of patents of the invested enterprises × education level of the personnel, and the number of patents of the invested enterprises × proportion of engineering professionals ($P < 0.05$). All in all, the education level of the entrepreneur' s VC human capital and the proportion of engineering professionals can effectively improve the innovation ability of the enterprise, thus indirectly playing a value-added role in the improvement of enterprise benefits. The invested enterprises will also face the problems of scale diseconomy and financing constraint when their profitability is enhanced, so they need to optimize their own business strategies. © Copyright © 2020 Jin, Zheng, Zhong and Cao.	China VC database enterprise benefits enterprise innovation ability VC of human capital Wind China financial database	To explore the role of venture capital (VC) based on the heterogeneity of human capital in the process of transforming innovation capabilities of enterprise into enterprise benefits and providing a reference for further research on enterprise performance development.	In this study, 399 listed companies that obtained VC before 2018 from the China VC database and Wind China financial database were selected as research objects, and relevant data of patent number, return on equity, Tobin's Q ratio, and research and development (R&D) investment ratio of each enterprise were obtained.	Providing a reference for further research on enterprise performance development	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
19	Impact of different patent cooperation network models on innovation performance of technology-based SMEs,	Wang, L., Wang, Y., Lou, Y., & Jin, J. (2020). Impact of different patent cooperation network models on innovation performance of technology-based SMEs. Technology Analysis and Strategic Management, 32(6), 724-738. doi:10.1080/09537325.2019.1705275	2020	Patent cooperation network, an important way for technology-based SMEs to enhance innovation performance, has become a research hotspot in recent years. Different types of patent cooperation network models and different degree of SMEs embedding them will lead to different effects on enterprise innovation performance improvement. This research selected the ICT industry and the pharmaceutical industry technology-based SMEs with rich patent output as research objects. Based on binary structure perspective of network breadth and depth, the patent cooperation networks are divided into four types: 'strong exploration', 'weak exploration', 'strong utilisation' and 'weak utilisation'. Through the multi-selection model and the negative binomial regression model, the general factors in the selection of patent cooperation network models and the impact of different models on enterprise innovation performance are analysed. This research provides path breakthroughs and development proposals for technology-based SMEs to access innovative resources and enhance their innovation capabilities on patent cooperation networks. © 2019, © 2019 Informa UK Limited, trading as Taylor & Francis Group.	industrial performance industrial technology information and communication technology innovation modeling pharmaceutical industry small and medium-sized enterprise	Through the multi-selection model and the negative binomial regression model, the general factors in the selection of patent cooperation network models and the impact of different models on enterprise innovation performance are analysed.	This research selected the ICT industry and the pharmaceutical industry technology-based SMEs with rich patent output as research objects.	Provide advances and development proposals for technology-based SMEs to access innovative resources and improve their innovation capacities in patent cooperation networks.	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
20	Natural resources, urbanization and regional innovation capabilities,	Chen, J., Wang, L., & Li, Y. (2020). Natural resources, urbanization and regional innovation capabilities. Resources Policy, 66 doi:10.1016/j.resourpol.2020.101643	2020	This paper used panel data of 30 regions/provinces of China from year 2005–2018 to empirically test the impact of abundance of natural resources and urbanization on regional innovation capabilities. The findings from the empirical analysis indicate that (1) the spatial effects on regional innovation capabilities are significant, and cannot be ignored. It shows that the optimal model is a spatial doubly model with dual fixed effects. (2) the richer the natural resources, the more unfavorable is the improvement of the innovation capacity of the region and surrounding areas. Urbanization has improved the region's innovation capabilities at regional level, but it is negatively related to the innovation capabilities of surrounding areas. (3) In terms of control variables, the average years of education is conducive to the improvement of innovation capacity in the region, and negative impact on the innovation capacity of adjacent area. Foreign direct investment (FDI) has promoted the regional innovation capacity in the region and adjacent area. The system has strengthened the regional innovation capacity, but the impact on the surrounding areas has not been significant. © 2020 Elsevier Ltd	Empirical analysis Foreign direct investments Innovation capability Innovation capacity Regional innovation Regional innovation capacities Resource curse Urbanization	To empirically test the impact of abundance of natural resources and urbanization on regional innovation capabilities.	The findings from the empirical analysis indicate that (1) the spatial effects on regional innovation capabilities are significant, and cannot be ignored. It shows that the optimal model is a spatial doubly model with dual fixed effects. (2) the richer the natural resources, the more unfavorable is the improvement of the innovation capacity of the region and surrounding areas, but it is negatively related to the innovation capabilities of surrounding areas. (3) In terms of control variables, the average years of education is conducive to the improvement of innovation capacity in the region, and negative impact on the innovation capacity of adjacent area.	Strengthen regional innovation capacity }	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
21	Examining the interplay between big data analytics and contextual factors in driving process innovation capabilities,	Mikalef, P., & Krogstie, J. (2020). Examining the interplay between big data analytics and contextual factors in driving process innovation capabilities. European Journal of Information Systems, 29(3), 260-287. doi:10.1080/0960085X.2020.1740618	2020	The potential of big data analytics in enabling improvements in business processes has urged researchers and practitioners to understand if, and under what combination of conditions, such novel technologies can support the enactment and management of business processes. While there is much discussion around how big data analytics can impact a firm's incremental and radical process innovation capabilities, we still know very little about what big data analytics resources firms must invest in to drive such outcomes. To explore this topic, we ground this study on a theory-driven conceptualisation of big data analytics based on the resource-based view (RBV) of the firm. Based on this conceptualisation, we examine the fit between the big data analytics resources that underpin the notion, and their interplay with organisational contextual factors in driving a firm's incremental and radical process innovation capabilities. Survey data from 202 chief information officers and IT managers working in Norwegian firms are analysed by means of fuzzy set qualitative comparative analysis (fsQCA). Results show that under different combinations of contextual factors the significance of big data analytics resources varies, with specific configurations leading to high levels of incremental and radical process innovation capabilities. © 2020, © 2020 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.	Business Process Chief information officer Contextual factors Fuzzy Set Qualitative Comparative Analysis Organisational Process Innovation Radical process innovations Resource-based view	To examine the fit between the big data analytics resources that underpin the notion, and their interplay with organisational contextual factors in driving a firm's incremental and radical process innovation capabilities.	Results show that under different combinations of contextual factors the significance of big data analytics resources varies, with specific configurations leading to high levels of incremental and radical process innovation capabilities.	Promote the innovation capabilities of incremental and radical processes of a company.	Noruega

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
22	Research on Optimization and Improvement of Power Grid Engineering Equipment Materials under Extreme Rain and Snow Conditions,	Pan, P., & Qiu, J. (2020). Research on optimization and improvement of power grid engineering equipment materials under extreme rain and snow conditions. Paper presented at the IOP Conference Series: Materials Science and Engineering, , 782(2) doi:10.1088/1757-899X/782/2/022016	2020	The construction of power grid engineering is developing more and more rapidly. In order to ensure the large-scale construction of power transmission and transformation projects, in the field of equipment and materials, it is necessary to eliminate the construction equipment of special equipment such as over-time service and equipment, and increase the amount of high-performance materials. The research and development of equipment materials should focus on specialization, standardization, and serialization to carry out innovative research and development, thereby improving grid construction efficiency, improving safety and quality levels, and completing power grid construction tasks. In recent years, with the rapid construction of UHV and other power transmission and transformation projects, the construction level and technical innovation capability of construction equipment have a great impact on the construction of the project, especially in the face of extreme rain and snow, how to ensure the strength of the material and meet the requirements. It is especially important. © Published under licence by IOP Publishing Ltd.	Measuring research planning standardization	Optimize the construction of electrical network engineering	The study indicates that the research and development of equipment materials should focus on specialization, standardization, and serialization to carry out innovative research and development, thereby improving grid construction efficiency, improving safety and quality levels, and completing power grid construction tasks, optimizing the construction of electrical network engineering	Develop first-class equipments, build a world-class power grid and environmental protection	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
23	Analysis on the influence of ecological innovation behavior based on analytic hierarchy process,	Zhou, H. (2020). Analysis on the influence of ecological innovation behavior based on analytic hierarchy process. Fresenius Environmental Bulletin, 29(4), 2357-2362.	2020	Based on the study of the connotation of.service innovation and ecological innovation service, and the four-dimensional model of service innovation and related theories, from four perspecti ves of the four-dimensional model, this thesis constructs a scientific evaluation system of eco-innovation service innovation to measure the service innovation ability of eco-innovation industry so as to provide a feasible analysis tool for the service innovation of eco-inno-vation industry, and also provide assessment indicators for each eco-innovation company to measure the service innovation work of its branches. This thesis constructs the evaluation system of eco-innovation service innovation, and makes an empirical evaluation on the service innovation capability of eco-in-novation companies. Based on the results of quantitative analysis, the main restricting factors ofservice innovation of eco-innovation company are determined. Then, based on the four-dimensional model ofservice innovation, improvement suggestions are put forward to enhance the service innovation ability of eco-innovation company. © 2020 Parlar Scientific Publications. All rights reserved.	Analytical hierarchy process ecosystem service empirical analysis industrial ecology innovation quantitative analysis	To construct the evaluation system of eco-innovation service innovation, and makes an empirical evaluation on the service innovation capability of eco-in-novation companies. Based on the results of quantitative analysis, the main restricting factors ofservice innovation of eco-innovation company are determined.	This thesis constructs the evaluation system of eco-innovation service innovation, and makes an empirical evaluation on the service innovation capability of eco-in-novation companies.	To provide a feasible analysis tool for the service innovation of eco-inno-vation industry, and also provide assessment indicators for each eco-innovation company to measure the service innovation work of its branches.	Turkía

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
24	Preliminary Study on the Evaluation System of Technological Innovation Index for the Central Enterprises of International First-class Enterprises,	Chang, Y., & Shi, Y. (2020). Preliminary study on the evaluation system of technological innovation index for the central enterprises of international first-class enterprises. Paper presented at the IOP Conference Series: Earth and Environmental Science, , 446(2) doi:10.1088/1755-1315/446/2/022016	2020	The State-Owned Assets Supervision and Administration attached great importance to the construction of technological innovation capabilities of central enterprises, and clearly proposed to study the evaluation index system of technological innovation capabilities of central enterprises, carry out evaluation of technological innovation indexes, and guide and encourage enterprises to upgrade the level of technological innovation. Technological innovation has become a powerful driving force for continuously promoting the scientific development of central enterprises. It is of great significance for accelerating the improvement of the level of technological innovation of central enterprises to carry out the evaluation of central enterprises' technological innovation index, establish an effective mechanism to guide technological innovation of all departments, and provide scientific decision-making basis for technological innovation of central enterprises. The core of this research revolves around the technology innovation index of central enterprise for building a world-class enterprise. First, systematically sort out the characteristics of technological innovation in world-class enterprises. Second, analyze the characteristics of technological innovation of central enterprises and the shortcomings of current state-owned enterprises' technological characteristics compared with first-class enterprises. Third, build a technology innovation index evaluation system of world-class enterprises. © 2020 Published under licence by IOP Publishing Ltd.	Evaluation index system Scientific decisions Scientific development State owned enterprise Technological characteristics Technological innovation Technological innovation capability Technology innovation	To sort out systematically the characteristics of technological innovation in world-class enterprises and analyze the characteristics of technological innovation of central enterprises and the shortcomings of current state-owned enterprises' technological characteristics compared with first-class enterprises.	The study assesses the importance of carrying out the evaluation of the technological innovation index of the central companies, establishing an effective mechanism to guide the technological innovation of all departments and providing a scientific basis for decision-making.	To study the evaluation index system of technological innovation capabilities of central enterprises, carry out evaluation of technological innovation indexes, and guide and encourage enterprises to upgrade the level of technological innovation.	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
25	Spatial heterogeneity in Chinese urban innovation capabilities and its determinants: Approach based on the geographically weighted regression model [中国城市创新能力及其影响因素的空间分异——基于 GWR 模型的实证],	Yiman, C., Lixun, L., & Tianlan, F. (2020). Spatial heterogeneity in chinese urban innovation capabilities and its determinants: Approach based on the geographically weighted regression model	2020	Innovation is the primary driving force of development and provides strategic support for building a modern economic system. Its role in promoting regional development has been studied and acknowledged by academics. Since the Chinese economic reform, the country's scientific and technological level and capacity for innovation has significantly improved, and the overall national strength has steadily increased. Presently, innovation plays a critical role in China's economic transformation from a stage of high-speed growth to a stage of high-quality development. Based on urban invention patents, this study analyzes the spatial characteristics of the innovation capabilities of Chinese cities by using the kriging interpolation method and a spatial autocorrelation model. The Geographical Weighted Regression (GWR) model was used to explore the spatial heterogeneity in the factors influencing the innovation ability of 289 cities, and to reveal the spatial differences in the dominant factors. The results indicate that the innovation ability of Chinese cities shows a decreasing trend from the southeast to the west, and the cities with the highest innovation capacity are concentrated in the southeastern coastal areas. The cities in the west, mainly in Tibet, have the lowest innovation capacity. The spatial agglomeration is significant. In terms of the determinants, the significance level of each variable was good. The proportion of significant regions in all cities in order from large to small is financial input, talent element, economic foundation, economy extraversion, financial environment, and information level. In addition to the significant positive correlation between financial input and urban innovation capacity, there are positive and negative correlations among the other determinants. Moreover, the range of the index's regression coefficient is large and has an obvious spatial differentiation. The talent element is positively correlated with the innovation ability of most cities. The influence of the economic foundation and information level on urban innovation ability is positive for economically developed areas and negative for underdeveloped areas. Economic extraversion is positively correlated with the innovation ability of the eastern coastal areas and the central and western regions, but negatively correlated with that of most cities in northeast and north China. The financial environment, represented by residents' savings, has a positive correlation effect on the innovation output of the northeast and western regions, while it has the opposite effect in the Yangtze river delta and other regions. The input of innovation elements in China is	China Geographic Weighted Regression Spatial differentiation Urban innovation capabilities	To analyze the spatial characteristics of the innovation capabilities of Chinese cities by using the kriging interpolation method and a spatial autocorrelation model and to explore the spatial heterogeneity in the factors influencing the innovation ability of 289 cities, and to reveal the spatial differences in the dominant factors.	The research shows that there are spatial differences in the factors influencing urban innovation capabilities in China, and the characteristics of different cities should be taken into account when formulating innovation policies to make policies more targeted and facilitate the healthy and coordinated development of national urban innovation.	To explore the spatial heterogeneity in the factors influencing the innovation ability of 289 cities, and to reveal the spatial differences in the dominant factors.	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
				still a leading determinant in improving the country's innovation ability. For southeastern Chinese cities with a higher level of economic development, more attention should be paid to improving their economic level and promoting the overall improvement of their innovation ability. For cities in the northeast and west, where the economic level is relatively inferior, financial support plays a significant role in the development of their innovation activities. Thus, attention should be paid to the cultivation of the financial market in these areas. The research shows that there are spatial differences in the factors influencing urban innovation capabilities in China, and the characteristics of different cities should be taken into account when formulating innovation policies to make policies more targeted and facilitate the healthy and coordinated development of national urban innovation. © 2020 Tropical Geography. All rights reserved.					

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
26	A structure equation model of total quality management and innovation capability affecting organisational performance,	Sirisan, S., Pianthong, N., & Olejnik, M. K. (2020). A structure equation model of total quality management and innovation capability affecting organisational performance. Asia-Pacific Journal of Science and Technology, 25(4)	2020	The relationship between total quality management (TQM) and innovation capability affecting organisational performance was examined. Empirical data were obtained from a survey of 437 automobile and auto parts industries and 462 electrical and electronic industries. Structural equation modelling (SEM) is used to analyse structural relationships between measured variables and latent construct variables. Findings suggested that TQM and innovation capability had a positive influence on organisational performance. Analysis of the structural equation model for TQM, innovation capability and organisational performance gave consistent results with empirical information. Results from our research showed that TQM had a positive effect on innovation capability and organisational performance. Findings indicated that criteria related with people management and supplier quality management had a stronger correlation with performance. Accordingly, organisations should provide the necessary quality-related training with rewards for superior quality improvement. Leaders should maintain close communication with suppliers concerning quality considerations and design changes. © 2020, Khon Kaen University,Research and Technology Transfer Affairs Division. All rights reserved.	Innovation capability Organizational performance Structure equation model Total quality management	To examine the relationship between total quality management (TQM) and innovation capability affecting organisational performance	Results from the research showed that TQM had a positive effect on innovation capability and organisational performance. Findings indicated that criteria related with people management and supplier quality management had a stronger correlation with performance.	To analyse structural relationships between measured variables and latent construct variables. (TQM and innovation capability	Tailandia

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
27	Determinants of technological innovation capabilities: Using fuzzy-DEMATEL and ANP,	Huang, C. -., Wu, C. -., Li, J., & Hsieh, C. -. (2020). Determinants of technological innovation capabilities: Using fuzzy-DEMATEL and ANP. Paper presented at the FEMIB 2020 - Proceedings of the 2nd International Conference on Finance, Economics, Management and IT Business, 106-114.	2020	This paper applies Fuzzy-DEMATEL and ANP to analyse the decisive determinants of technological innovation capabilities (TICs) and the weight relation in high-tech and traditional manufacturing industries. Technological innovation capabilities comprise various features that are complex and interrelated. Thus, the purpose of this paper is to clarify the causal relationship of the various features to precisely provide the enterprises with some determinants to maximize the effectiveness of resource utilization. In terms of dimension, the research shows that the innovation management capability is the decisive factor of technological innovation capabilities for high-tech industry and traditional manufacturing industry, which affects the other five dimensions. However, in terms of criteria, learning capabilities are decisive determinants. Therefore, in the face of competitive environment with continuous shortening of the product life cycle and rapidly changing customer demands, overall, in order to enhance innovation capabilities, enterprises must focus on the improvement of innovation management capabilities. In regard to the detail factors, the enterprises must enhance the learning capabilities to recognize, absorb and make use of knowledge from the internal organization in order to strengthen the knowledge management capability, the innovative decisionmaking capability and technology of the enterprise itself. Copyright © 2020 by SCITEPRESS - Science and Technology Publications, Lda. All rights reserved.	Competitive environment Innovation capability Innovation management Knowledge management capabilities Learning capabilities Resource utilizations Technological innovation capability Traditional manufacturing	To analyse the decisive determinants of technological innovation capabilities (TICs) and the weight relation in high-tech and traditional manufacturing industries.	In terms of dimension, the research shows that the innovation management capability is the decisive factor of technological innovation capabilities for high-tech industry and traditional manufacturing industry, which affects the other five dimensions.	The purpose of this paper is to clarify the causal relationship of the various features to precisely provide the enterprises with some determinants to maximize the effectiveness of resource utilization.	No se identifica

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
28	Competitive advantages of SMEs: The roles of innovation capability, entrepreneurial orientation, and social capital [Ventajas competitivas de las PYME: El papel de la capacidad de innovación, orientación empresarial, y capital social],	Sulistyo, H., & Ayuni, S. (2020). Competitive advantages of SMEs: The roles of innovation capability, entrepreneurial orientation, and social capital. [Ventajas competitivas de las PYME: El papel de la capacidad de innovación, orientación empresarial, y capital social] Contaduria y Administracion, 65(1) doi:10.22201/FCA.24488410E.2020.1983	2020	The purpose of this study is to examine the influence of entrepreneurial orientation and social capital on innovation and performance capabilities in achieving the competitive advantage of small and medium enterprises (SMEs). SMEs contribute significantly to the Indonesian economy, especially in the era of a monetary crisis. Some researches on performance and innovation capabilities in SMEs have focused on finance, operation, and marketing aspects but have not explored the intangible assets such as entrepreneurial and social capital. Intangible assets become a key success factor in improving the performance of SMEs, especially in the era of ASEAN Economic Community 2016. The method used in this research is descriptive and explanatory. The sample of this study is owners of SMEs handicraft in Semarang, Jepara, Kudus, with as many as 254 respondents. Sampling is conducted on SMEs that have been operating for at least five years, having employees over 10 people and still exist up to now. Data were collected by using survey method through closed and open questionnaires and interview. Data analysis was done by using the structural equation model with AMOS program. The results show that there is a significant influence between entrepreneurial orientation and social capital on innovation and performance capabilities. Innovation capability has a significant influence on performance improvement and competitive advantage of SMEs. © 2020 Universidad Nacional Autonoma de Mexico. All rights reserved.	Entrepreneurial orientation Social capital Performance Innovation capability Competitive advantage	To examine the influence of entrepreneurial orientation and social capital on innovation and performance capabilities in achieving the competitive advantage of small and medium enterprises (SMEs).	The sample of this study is owners of SMEs handicraft in Semarang, Jepara, Kudus, with as many as 254 respondents. Sampling is conducted on SMEs that have been operating for at least five years, having employees over 10 people and still exist up to now.	Determine the influence of Improved innovation capabilities on improving performance and competitive advantage	Indonesia

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
29	The actions scheduling problem for improvement innovation capabilities,	Riquelme, C., Galvez, D., Vásquez, Ó. C., & Camargo, M. (2020). The actions scheduling problem for improvement innovation capabilities. Paper presented at the 26th International Association for Management of Technology Conference, IAMOT 2017, 711-728	2020	The innovation has been positioned as a process capable of improving the performance of the companies allowing it to obtain benefits in relation to its competitors. However, so far there is no method to know exactly how to manage this process to succeed. Therefore, the latest research has focused on determining models for assessing the innovation capacity of companies that serve as the basis for making strategic decisions on the subject. This paper introduces the actions scheduling problem for improvement innovation capabilities. A mathematical model is formulated and a frame of reference for the measurement of the innovation capacity is established. Among the most cited models of evaluation in the literature is the Potential Innovation Index (PII), proposed by the ERPI research team of the University of Lorraine in France, which characterizes and diagnoses the innovation capacity of SMEs. The PII is based on 6 internal practices of innovation, which are evaluated from a group of 18 associated phenomena. The objective is that, based on this diagnosis, an action plan will be established to increase the results obtained by the company based on the cost-benefit ratio of the actions. The expected results correspond to the optimal schedule of the actions required for the construction of improvement recommendations adapted to the company, the solution is provided by the mathematical model executed on C ++ / CPLEX 12.1.0. © 2020 26th International Association for Management of Technology Conference, IAMOT 2017. All rights reserved.	Cost benefit ratio Frame of reference Improvement recommendations Innovation capability Innovation capacity Innovation index Scheduling problem Strategic decisions	To introduce the actions scheduling problem for improvement innovation capabilities and to formulat a mathematical model and a frame of reference for the measurement of the innovation capacity is established.	The study Formulates a mathematical model and establishes a reference framework for measuring innovation capacity.	Determining models for assessing the innovation capacity of companies that serve as the basis for making strategic decisions on the subject.	Francia

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
30	Turning responsible purchasing and supply into supply chain responsiveness,	Yang, J., Xie, H., Yu, G., & Liu, M. (2019). Turning responsible purchasing and supply into supply chain responsiveness. Industrial Management and Data Systems, 119(9), 1988-2005. doi:10.1108/IMDS-01-2019-0029	2019	Purpose: The purpose of this paper is to investigate whether responsible purchasing (relational commitment and supplier evaluation) and responsible supply (supplier firm information sharing and supplier performance) affect the two factors of supply chain responsiveness including process efficiency and customer knowledge management capability, which, in turn, affect other three factors of supply chain responsiveness, such as dyadic quality performance, innovation capability and buyer–supplier relationship improvement. Design/methodology/approach: This study used questionnaire survey and statistical analytical methods. Employing path analysis, this study tested hypothesized relationships using data collected from manufacturers. Findings: The findings of this study support the theorized links. Responsible purchasing and supply enhance supply chain responsiveness, which is reflected through process efficiency, customer knowledge management capability, dyadic quality performance, innovation capability and buyer–supplier relationship improvement. Originality/value: Grounded in the goal interdependence theory, this study investigates the effects of responsible purchasing and supply on supply chain responsiveness in the context of Chinese manufacturers. This study offers managerial implications and theoretical contribution. © 2019, Emerald Publishing Limited.	Chinese manufacturers Customer knowledge management Design/methodology/approach Innovation capability Managerial implications Questionnaire surveys Responsiveness Supplier relationships	To investigate whether responsible purchasing (relational commitment and supplier evaluation) and responsible supply (supplier firm information sharing and supplier performance) affect the two factors of supply chain responsiveness including process efficiency and customer knowledge management capability, which, in turn, affect other three factors of supply chain responsiveness, such as dyadic quality performance, innovation capability and buyer–supplier relationship improvement.	This study used questionnaire survey and statistical analytical methods. Employing path analysis, this study tested hypothesized relationships using data collected from manufacturers. Findings: The findings of this study support the theorized links. Responsible purchasing and supply enhance supply chain responsiveness, which is reflected through process efficiency, customer knowledge management capability, dyadic quality performance, innovation capability and buyer–supplier relationship improvement.	Investigate the effects of responsible purchasing and supply on supply chain responsiveness in the context of Chinese	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
31	The construction of quantitative research on evaluation of independent innovation ability of small and medium-sized industrial enterprises,	Sun, K. (2019). The construction of quantitative research on evaluation of independent innovation ability of small and medium-sized industrial enterprises. Paper presented at the Proceedings - 2019 International Conference on Robots and Intelligent System, ICRIS 2019, 531-534. doi:10.1109/ICRIS.2019.00136	2019	In order to enhance China's independent innovation capability and build an innovative country, and based on the fact-based innovation-driven development strategy, and then enhance the innovation capability in many aspects, namely, the original innovation capability, the integrated innovation capability and the re-innovation capability based on the introduction, digestion and absorption. The results show that primary and secondary industrial enterprises are the main body of independent innovation in China. In other words, China's independent innovation ability is related to the improvement of the overall national economic quality, and also directly affects China's international competitiveness. Therefore, based on qualitative analysis, authors construct the system dynamics flow chart of independent innovation system, and uses the system dynamics equation to clarify the logical and quantitative relationship between different factors. In addition, under the condition of verifying the validity of the simulation model, this paper chooses enterprise self-financing, per capita labor expenditure and research and development expenditure of scientific and technological personnel as the research objects, and carries out analysis and Research on their impact on the independent innovation ability of small and medium-sized industrial enterprises in China. In addition, this paper also uses the method of dynamic simulation demonstration to carry out analysis and discussion, to achieve the goal of quantitative analysis of the system. © 2019 IEEE.	Evaluation index system Independent innovation Independent innovation ability Independent innovation systems Industrial enterprise Influencing factors International competitiveness Research and development expenditure	To construct the system dynamics flow chart of independent innovation system, and to use the system dynamics equation to clarify the logical and quantitative relationship between different factors.	The results of this study show that primary and secondary industrial enterprises are the leading independent innovation body in China. In other words, China's independent innovation capacity is related to improving the overall national economic quality and also directly affects China's international competitiveness.	To enhance China's independent innovation capability and build an innovative country, and based on the fact-based innovation-driven development strategy, and then enhance the innovation capability in many aspects, namely, the original innovation capability, the integrated innovation capability and the re-innovation capability based on the introduction, digestion and absorption.	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
32	Improvement of Nuclear Science Standards (SNI) to Meet Market Needs and Harmonization,	Sutanto, J., & Sulisworo, P. (2019). Improvement of nuclear science standards (SNI) to meet market needs and harmonization. Paper presented at the Journal of Physics: Conference Series, , 1198(2) doi:10.1088/1742-6596/1198/2/022010	2019	Standards are technical or standardized requirements, including procedures and methods developed based on the consensus of all stakeholders with due observance of safety, security, health, environmental and scientific and technological developments, experience, and current developments and the future to gain the greatest benefit. Nuclear science and technology standards are needed in the present time in addition to competitiveness in various industrial sectors also improve the quality, both from the process, methods and nuclear science and technology products. Currently the established nuclear science and technology standard amounts to 171 Indonesia National Standards (SNI) and 19 BATAN Standards based on competencies. The method used is statistical and monitoring method using stages according to National Standardization Body (BSN) guideline. That is through study, evaluation, technical guidance, drafting, technical meeting, consensus meeting, public hearing, polling, proposal of determination, and stipulation. The formulated and defined standards have been harmonized with existing international standards without altering the meaning of the substance and even some of the standards are the results of research and development itself (non-adoption), The objective of improving the standards of nuclear science and technology is to improve the protection of society and the environment related to the utilization of products and/or nuclear technology, enhanced quality assurance, production efficiency, national and international competitiveness and enhanced nuclear technology innovation capability as well as one part of the Clearing House of Nuclear Technology. National standard contribution at the national level is currently 1.75% of the nationally accepted standards issued by BSN. © 2019 Published under licence by IOP Publishing Ltd.	Standards nuclear science and technology stakeholders harmonization	The objective of improving the standards of nuclear science and technology is to improve the protection of society and the environment related to the utilization of products and/or nuclear technology, enhanced quality assurance, production efficiency, national and international competitiveness and enhanced nuclear technology innovation capability as well as one part of the Clearing House of Nuclear Technology.	The study analyzes mechanisms to compete with the avalanche of nuclear technology from abroad.	Improve nuclear science and technology standards to meet market needs.	Indonesia

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
33	How collaborative routines improve dynamic innovation capability and performance in tourism industry? A path-dependent learning model,	Pongsathornwiwat, A., Jeenanunta, C., Huynh, V. -., & Udomvitid, K. (2019). How collaborative routines improve dynamic innovation capability and performance in tourism industry? A path-dependent learning model. Asia Pacific Journal of Tourism Research, 24(4), 281-295	2019	Current results of direct relationships between collaboration and innovation capability on performance in tourism contexts are inconsistent. This research is to uncover roles of collaborative routines on promoting relationships between internal and service innovation capabilities as two distinct mechanisms, and performance. The study also examines the contingent effect of knowledge search on performance. Survey data from 181 samples from the Thai tourism industry are gathered for analyses. Findings demonstrate that knowledge search and internal innovation capability have a direct impact on performance, whereas the effect of service innovation capability on performance is significant only in the presence of collaborative routines. © 2019, © 2019 Asia Pacific Tourism Association.	GEOBASE Subject Index industrial performance innovation knowledge learning leisure industry numerical model	To find out roles of collaborative routines on promoting relationships between internal and service innovation capabilities as two distinct mechanisms, and performance.	Literature suggests that in developing innovation in tourism, tourism enterprises are particularly dependent on the scale of external knowledge, which may be distributed through collaborative networks such as sharing knowledge and working jointly with suppliers	Identify which is the impact of collaborative routines on innovation capacity	Thailandia
34	Selection and scheduling of actions for innovation capabilities improvement,	Quezada, F., Rojo-Gonzalez, L., & Vasquez, O. C. (2019). Selection and scheduling of actions for innovation capabilities improvement. Paper presented at the 2019 6th International Conference on Control, Decision and Information Technologies, CoDIT 2019, 25-29.	2019	This paper introduces the selection and scheduling problem of actions for improving the innovation capability (IC) of an enterprise based on expert assessment using a particular maturity grids for its measurement, in which budget and time limit constraints are imposed. To address this problem, we study its computational complexity and formulate a binary integer linear programming (BILP) for an exact resolution, which meets IC targets and minimizes the total cost of the schedule for the selected actions. To illustrate the usefulness of the proposed model, a numerical example based on a French textile company is considered. © 2019 IEEE.	Binary integer linear programming (BILP) Example based	To introduces the selection and scheduling problem of actions for improving the innovation capability (IC) of an enterprise based on expert assessment using a particular maturity grids for its measurement, in which budget and time limit constraints are imposed.	The study uses a tool that is based on the potential	To create a tool to develop a guide that companies can follow to maximize and improve their	

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
					Expert assessment		Innovation Index (PII), one of the most studied metrics in recent years, which focuses on measuring innovation capacity in SMEs	innovation capability.	
					Innovation capability				
					Scheduling problem				
					Selection				
35	Assessing regional differences in green innovation efficiency of industrial enterprises in China,	Du, J. -., Liu, Y., & Diao, W. -. (2019). Assessing regional differences in green innovation efficiency of industrial enterprises in china. International Journal of Environmental Research and Public Health, 16(6)	2019	Green technology innovation is an important means to break out of the constraints of resources and the environment, enhance the competitiveness of enterprises, and achieve the upgrading of industrial structures, and promote high-quality economic growth. In order to realize the overall improvement of the green technology innovation capability of Chinese enterprises, it is necessary to measure the efficiency of industrial enterprises' green technology innovation and explore their regional differences. In this paper, from the perspective of a two-stage innovation value chain, by introducing the industrial carbon emissions per unit of Gross Domestic Product (GDP) and the "three wastes" pollutants into the research framework of green technology innovation efficiency, we established a novel green innovation efficiency evaluation indicator system for industrial enterprises. Furthermore, we used a two-stage network DEA with shared input to measure the efficiency of regional enterprises' green technology innovation and explored the regional differences in industrial enterprises' green technology R&D and the efficiency of green technology achievement transformation. Finally, we provide some suggestions for improving China's industrial enterprises' green innovation efficiency, so that they can ameliorate the significant regional imbalances and differences and realize high-quality economic growth. © 2019 by the authors. Licensee MDPI, Basel, Switzerland.	China	To measure the efficiency of regional enterprises' green technology innovation and explored the regional differences in industrial enterprises' green technology R&D and the efficiency of green technology achievement	In this document, from the perspective of a two-stage innovation value chain, introducing industrial carbon emissions per unit of Gross Domestic Product (GDP) and pollutants from the "three wastes" into the research framework of efficiency of innovation in green technologies, a novel system of indicators for evaluating the efficiency of green innovation was established for industrial companies.	Achieve the overall improvement of the green technology innovation capacity of Chinese enterprises	China
					Diffusion of Innovation				
					Economic Development				

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
					Efficiency	transformation.			
					Efficiency				
					Geography				
					Industry				
					Inventions				
					Manufacturing and Industrial Facilities				
36	Effect of use of information technology on innovation capability, competitiveness, and firm performance : Case of manufacturing industry in South Sulawesi,	Alam, S., Munizu, M., & Jillbert, J. (2019). Effect of use of information technology on innovation capability, competitiveness, and firm performance: Case of manufacturing industry in south sulawesi. Paper presented at the IOP Conference Series: Earth and Environmental Science, , 235(1	2019	This study aimed to investigate the effect of information technology on innovation capability, competitiveness, and firm performance. To examines the impact of innovation capability on competitiveness, and firm performance. To examines the effect of competitiveness on firm performance. The population of this study was some medium and large-scale manufacturing companies in Makassar City and Gowa Regency, South Sulawesi Province in Indonesia. The number of samples was 160 units of manufacturing companies. Method of analysis used descriptive analysis and structural equation modeling analysis. The results showed that the use of information technology has a direct and positive effect on innovation capability, competitiveness, and firm performance. Innovation capability has a direct and positive effect on competitiveness, and firm performance. Competitiveness has a positive effect on firm performance. Also, firm performance can be improved directly through the use of information technology, innovation capability, and competitiveness. The firm performance can be increased indirectly through improvements some indicators of innovation capability variable, and competitiveness. © Published under licence by IOP Publishing Ltd.	Descriptive analysis	To investigate the effect of information technology on innovation capability, competitiveness, and firm performance.	The population of this study was some medium and large-scale manufacturing companies in Makassar City and Gowa Regency, South Sulawesi Province in Indonesia. The number of samples was 160 units of manufacturing companies	To examines the effect of competitiveness on firm performance.	Indonesia
					Innovation capability				
					Large-scale manufacturing				
					Manufacturing companies				
					Manufacturing industries				
					Method of analysis				
					Number of samples				

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
					Structural equation modeling				
37	Explaining the competitive advantage of islamic hotel concepts: Insights from Malaysia,	Karia, N., & Fauzi, F. A. (2019). Explaining the competitive advantage of islamic hotel concepts: Insights from malaysia. The routledge handbook of halal hospitality and islamic tourism (pp. 83-92)	2019	Malaysia has been recognised as one of the best destinations for Muslim travellers and the excellent focus on Islamic tourism and hospitality industry. Indeed, it was acknowledged as the country with the most developed Islamic economy ecosystem for halal travel for the year 2014 to 2015 by the Dubai Islamic Economy Development Centre (DIEDC) Halal Travel Index. Therefore, the idea of creating Islamic hotels should be seen as the perfect platform to promote true Islamic concepts and their implementation in contemporary lifestyle. Islamic hotels would certainly attract more Muslim tourists and, in turn, generate more return on investment. Hoteliers could take advantage of the situation and join the centralised effort by getting their hotel Shariah-compliant, or at the very least, Muslim-friendly. This chapter suggests that an Islamic hotel emphasises the importance of its innovation for a hotel's competitive advantage. However, the knowledge about the innovation capability of an Islamic hotel has yet to be explored. The chapter is a novel attempt to document the strategy for an Islamic hotel in Malaysia based on the knowledge of halal business prescribed in the Quran. The interview findings of a case study of Islamic hotel reveal some proactive improvements in handling halal hotel, halal resources, and capabilities for achieving a hotel competitive advantage. © 2020 selection and editorial matter, C. Michael Hall and Girish Prayag.	Muslim travellers acknowledged knowledge of halal business	To document the strategy for an Islamic hotel in Malaysia based on the knowledge of halal business prescribed in the Quran.	The interview findings of a case study of Islamic hotel reveal some proactive improvements in handling halal hotel, halal resources, and capabilities for achieving a hotel competitive	To emphasises the importance of the innovation for a hotel's competitive advantage in Malasia	Malasia

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
38	The interaction of organizational capabilities and individual competences for open innovation in small and medium organizations,	Pranciulyte-Bagdžiuniene, I., & Petraite, M. (2019). The interaction of organizational capabilities and individual competences for open innovation in small and medium organizations. Informacijos Mokslai, 85	2019	Open innovation serves as a principal paradigm for success in diverse and dynamic business environments, as it gives the promise of a better-marked acceptance, a higher level of novelty, and managed innovation risks. However, SMEs face a critical challenge in developing open innovation capabilities and establishing new organizational processes that would empower employees to perform in open innovation regimes. We analyze the mediating role of organizational capabilities for employing and facilitating individual competences for innovation performance improvement as based on a survey of 266 SMEs. This study aimed to identify links between organizational capabilities and individual competences in AI for innovation performance in SMEs. The results of our study showed that organizational capabilities in AI at the level of organizations play a role as a mediator between competences for AI at the individual level and the progress of innovations. Considering that organizational skills in AI (organizational culture openness, organizational learning and trust, knowledge management systems, etc.) are strong organizational tools that help to increase the efficiency of AI and individual competences (to enhance employee creativity, enhance interaction with partners) as well as management competences (flexibility, ability to work with various professional communities, strategic thinking, etc.). This study partially refutes the assumptions that SMEs can only achieve innovative progress through individual competences in AI. Organizational capabilities in AI are also very important for AI implementation. © 2018 Ilma Pranciulyte-Bagdžiuniene, Monika Petraite.	Individual competences Open innovation Organizational capabilities Small and medium organizations	To identify links between organizational capabilities and individual competences in AI for innovation performance in SMEs.	The study shows that organizational capabilities in AI at the organization level play a role as a mediator between AI competencies at the individual level and the progress of innovations.	Analyze the mediating role of organizational capabilities for employing and facilitating individual competences for innovation performance improvement as based on a survey of 266 SMEs.	Lituania

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
39	The effects of fiscal and taxation policies on the innovation efficiency of manufacturing enterprises: A comparative study from the perspective of economic regions [Fiskalinės ir mokesčių politikos poveikis gamybos įmonių inovacijų veiksmingumui: Lyginamasis ekonominės regionų perspektyvos tyrimas],	Liu, L., Kang, C., Yin, Z., & Liu, Z. (2019). The effects of fiscal and taxation policies on the innovation efficiency of manufacturing enterprises: A comparative study from the perspective of economic regions. [Fiskalinės ir mokesčių politikos poveikis gamybos įmonių inovacijų veiksmingumui: Lyginamasis ekonominės regionų perspektyvos tyrimas] Transformations in Business and Economics, 18(3), 206-228	2019	Fiscal and taxation policies represented by government subsidies and tax incentives have consistently been an important intervention for the government to motivating innovation. However, existing research ignores the contingency impact of regional differences on the incentive effects of fiscal and taxation policies. To explore the effects of regional differences on the relationship between fiscal and taxation policies and the efficiency of manufacturing enterprises' innovation, Using data on China's Shanghai and Shenzhen A-share manufacturing listed companies from 2008–2016, the DEA (Data Envelopment Analysis) model, and multiple regression models, the influence of fiscal and taxation policies on the innovation efficiency of manufacturing enterprises and the moderating effects of regional marketization and innovation capabilities were analysed from the perspective of economic regions. Results show that fiscal and taxation policies can improve the innovation efficiency of manufacturing enterprises. However, the effect of improving the innovation efficiency of enterprises through financial subsidy policies is more significant than that obtained through tax incentives due to the clear, explicit, and direct characteristics of the former policies. Differences exist in the effects of fiscal and taxation policies on the efficiency of enterprises' innovation in different economic regions. Compared with the western region, the eastern and central regions present stronger innovation efficiency of fiscal and taxation policies for manufacturing enterprises. The innovation efficiency of fiscal and taxation policies in manufacturing enterprises in Yangtze River Delta and Pearl River Delta regions is more significant than that in the Beijing-Tianjin-Hebei region. The degree of regional marketization and regional innovation capability exert certain moderating effects on the innovation efficiency of manufacturing enterprises, but the moderating effect weakens the efficiency loss. The conclusions provide decision-making support for the adjustment and improvement of technological innovation policies of manufacturing enterprises. © Vilnius University, 2002-2019.	Fiscal and taxation policy Innovation efficiency Manufacturing enterprises Regional innovation capability Regional marketization	To explore the effects of regional differences on the relationship between fiscal and taxation policies and the efficiency of manufacturing enterprises' innovation, Using data on China's Shanghai and Shenzhen A-share manufacturing listed companies from 2008–2016	Results show that fiscal and taxation policies can improve the innovation efficiency of manufacturing enterprises. However, the effect of improving the innovation efficiency of enterprises through financial subsidy policies is more significant than that obtained through tax incentives due to the clear, explicit, and direct characteristics of the former policies.	Analyze the influence of fiscal and tax policies on the innovation efficiency of manufacturing companies and the moderating effects of regional marketing and innovation capacities from the perspective of economic regions	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
40	Dynamic growth of technological innovation capability of manufacturing enterprises from the perspective of open innovation on evaluation,	Wu, Q., & Wang, W. (2018). Dynamic growth of technological innovation capability of manufacturing enterprises from the perspective of open innovation on evaluation. Paper presented at the 5th International Conference on Industrial Economics System and Industrial Security Engineering, IEIS 2018 - Proceeding, doi	2018	The world's current economic development presents the only »unchanged» is »continuous change». This »continuous change» is the »innovation» that the academic community is increasingly concerned about. The development mode of the company is toward continuous cross-border, continuous innovation and development, and constantly breaking the original game rules and competitive landscape. However, if manufacturing companies want to successfully achieve »cross-border», knowledge search is considered to be a key factor in achieving »cross-border technological innovation». Knowledge search itself has »duality». How does the »duality» of knowledge search affect the improvement of technological innovation? Does absorptive capacity have an effect on external knowledge search and manufacturing companies' technological innovation capabilities? Due to the different theoretical perspectives, there is no definitive discussion on the growth model of the technological innovation capability of manufacturing enterprises in the academic circles. Based on the open innovation theory as the theoretical basis, what is the growth model for the technological innovation capability of manufacturing enterprises? This paper uses empirical analysis methods, latent variable mixed growth model and other methods to empirically analyze 305 manufacturing companies. The study finds that there are two different dynamic growth models for the technological innovation capability of manufacturing enterprises based on the open innovation theory: The growth model and the »U» growth model. Furthermore, it further examines how the duality of knowledge search, the breadth and depth of knowledge search, and absorptive capacity affect the two different technological innovation capacity growth models of manufacturing companies. © 2018 IEEE.	Absorptive capacity Growth modeling Knowledge search Manufacturing companies Technological innovation capability	To examine how the duality of knowledge search, the breadth and depth of knowledge search, and absorptive capacity affect the two different technological innovation capacity growth models of manufacturing companies.	This paper uses empirical analysis methods, latent variable mixed growth model and other methods to empirically analyze 305 manufacturing companies.	Identify the growth model for the technological innovation capacity of manufacturing companies	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
41	Research and analysis on efficiency and benefit of integration of industrialization and informatization based on multi-source data [基于多源数据的两化融合绩效研究分析],	Li, J., Fu, Y., & Cheng, Y. (2018). Research and analysis on efficiency and benefit of integration of industrialization and informatization based on multi-source data. [基于多源数据的两化融合绩效研究分析] Jisuanji Jicheng Zhizao Xitong/Computer Integrated Manufacturing Systems, CIMS, 24(12), 2921-2932	2018	Integration of Industrialization and Informatization (III) is the only approach to promote innovation capability and sustainable competitiveness of enterprises, and the inevitable choice of economic structure adjustment and growth mode transformation for China. Bases on III development's evaluation data of nearly 93000 industrial enterprises and multi-source data representing different aspects such as enterprises' financial status, industrial development and macro-economic development, the performance analysis of China's III was conducted, and the generating mechanism of III's performance in China from three perspectives including enterprises' value creation, industrial comprehensive development and quality of industrial economy development was explorative analyzed. The analysis results showed that III was the irreplaceable path for enterprises to achieve long-term development, the effective driving force for industrial total factor productivity's exponential improvement, and be of vital significance to high quality development of China's economy. The countermeasures and suggestions were provided for further promoting the development of III and its effectiveness's attainment, which could provide useful reference to relevant parties including government departments, enterprises and service providers to work together in propelling the quality reformation, efficiency reformation and driving-force reformation, and stimulate the high-quality development of China's economy. © 2018, Editorial Department of CIMS. All right reserved.	Efficiency and benefit Government departments High quality Industrial development Informatization Performance analysis Total factor productivity Value creation	Stimulate the high-quality development of China's economy	The study is based on the development evaluation data III of almost 93,000 industrial companies and data from multiple sources representing different aspects such as the state of the companies, industrial development and macroeconomic development, the performance analysis of the III of China and the performance generation mechanism of the III.	Promote innovation capability and sustainable competitiveness of enterprises, and the inevitable choice of economic structure adjustment and growth mode transformation for China.	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
42	The impact of strategic quality orientation on innovation capabilities and sustainable business growth: Empirical evidence from the service sector of Pakistan,	Khan, B. A., & Naeem, H. (2018). The impact of strategic quality orientation on innovation capabilities and sustainable business growth: Empirical evidence from the service sector of pakistan. International Journal of Quality and Reliability Management, 35(8), 1568-1598	2018	Purpose: The purpose of this paper is to present a new conceptual framework for service organizations to achieve sustainable business performance through strategic quality orientation and innovation capabilities on the basis of relevant literature review and integration of various innovation and business sustainability theories and models. The study tests if the strategic quality orientation enhances innovation capabilities in terms of exploitation and explorative innovation, which, in turn, can lead to sustainable business growth. Mediating impact of innovation capabilities between strategic quality orientation and sustainable business growth relationship is also examined. Design/methodology/approach: A conceptual framework was developed to test and establish these relationships. Results were analyzed based on 442 questionnaires collected from five different service industries of Pakistan, and the structural equation modeling technique was used to empirically test the conceptual framework. Findings: The results indicate that strategic quality orientation directly affects innovation capabilities and sustainable business growth and also indirectly impacts sustainable business growth through its effect on innovation capabilities. Practical implications: The study suggests service organizations can jointly implement quality and innovation using a structured approach, with strategic quality orientation as the foundation. In this way, they can leverage from their strategic quality management, supplier relationship, corporate quality culture, continual improvement and people management in order to ensure innovation and sustainability in their business growth. Originality/value: The study integrates strategic quality orientation and innovation capabilities, and validates a new organizational framework through empirical examination which can be used by service organizations to ensure their sustainable business growth. © 2018, Emerald Publishing Limited.	Exploitative innovation Explorative innovation Strategic quality orientation Sustainable business growth	To tests if the strategic quality orientation enhances innovation capabilities in terms of exploitation and explorative innovation, can lead to sustainable business growth.	Results were analyzed based on 442 questionnaires collected from five different service industries of Pakistan, and the structural equation modeling technique was used to empirically test the conceptual framework.	To present a new conceptual framework for service organizations to achieve sustainable business performance through strategic quality orientation and innovation capabilities	Pakistán
43	Institutional Environment, Cluster Development and Innovative Financing Constraints-an Empirical Study Based on Listed Companies in China's New Materials,	Wang, J., & Duan, S. (2018). Institutional environment, cluster development and innovative financing constraints-an empirical study based on listed companies in china's new materials. Paper presented at the IOP Conference Series: Materials Science and Engineering, , 394(4)	2018	This paper takes a sample of a listed company in China's new materials industry as an example to empirically analyze the impact of external institutional environment and the development of internal enterprise clustering on the innovation and financing constraints of an enterprise. The study finds that the higher the degree of cluster development, the stronger the enterprise's ability to innovate, and the lower the level of innovative financing constraints	Empirical studies Financing constraints Financing policies	To empirically analyze the impact of external institutional environment and the development of internal enterprise clustering on the innovation and financing constraints of an enterprise.	El estudio encuentra que cuanto mayor es el grado de desarrollo de un clúster, mayor es la capacidad de la empresa para innovar y menor es el nivel de restricciones financieras innovadoras	This paper uses the listed companies in the new materials industry from 2007 to 2010 as a sample to empirically examine the impact of external institutional environment and internal cluster development on	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
								innovation financing constraints	
					Government intervention				
					Independent innovation				
					Materials industry				
					Private companies				
					State owned enterprise				
44	A knowledge-based innovation assessment system for small- and medium-sized enterprises: adding value with cognitive mapping and MCDA,	Grillo, C., Ferreira, F. A. F., Marques, C. S. E., & Ferreira, J. J. (2018). A knowledge-based innovation assessment system for small- and medium-sized enterprises: Adding value with cognitive mapping and MCDA. Journal of Knowledge Management, 22(3), 696-718	2018	Purpose: The 2008 global financial crisis showed that the ability to innovate is a key management skill and that approaches to assessing the innovation capability of small- and medium-sized enterprises (SMEs) need to be as realistic as possible. This study aims to address the latter practical need through a sociotechnical approach. Design/methodology/approach: Based on a combined use of cognitive mapping and the Decision EXpert (DEX) technique, and grounded on the insights generated by a panel of SME managers and entrepreneurs in two intensive group meetings, a knowledge-based assessment system for evaluating SMEs' innovation capability was created, tested and validated. Findings: The knowledge-based assessment system identified the most innovative SMEs in a sample of companies. The "plus-minus-1" and dominance analyses carried out provided further support for the results. Research limitations/implications: The proposed system is extremely versatile but process-oriented and idiosyncratic in nature, meaning that extrapolations to other contexts need to be done with due caution. Practical implications: The panel of SME decision makers agreed that the system improves the current methods used to evaluate SMEs' innovation capability, contributing to a more informed perspective on management issues. The panel members also noted that the proposed system functions as a learning mechanism, facilitating the development of well-focused suggestions for improvements SMEs can make. Originality/value: The integrated use of cognitive maps and rule-base decisions contributes to a better understanding of how to assess SMEs' innovation capability. No prior work reporting the integrated use of these two techniques in this study context has been found. © 2018, Emerald Publishing Limited.	Cognitive mapping	Assess the innovation capacity of small and medium-sized enterprises (SMEs) in a realistic way through a sociotechnical approach.	This study based on a combined use of cognitive mapping and the Decision EXpert (DEX) technique, and grounded on the insights generated by a panel of SME managers and entrepreneurs in two intensive group meetings, a knowledge-based assessment system for evaluating SMEs' innovation capability was created, tested and validated. Findings: The knowledge-based assessment system identified the most innovative SMEs in a sample of companies.	Develop a learning mechanism that facilitates the implementation of focused strategies for improvements that SMEs can make.	Portugal
					Decision Expert				
					Innovation capability				
					Knowledge-based assessment system				
					Multiple criteria decision analysis				

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
					Small- and medium-sized enterprises				
45	Dynamic interaction between knowledge accumulation and technologic innovation capability in catch-up cycle,	Li, X., & Yu, B. (2018). Dynamic interaction between knowledge accumulation and technologic innovation capability in catch-up cycle. Paper presented at the 2018 7th International Conference on Industrial Technology and Management, ICITM 2018, , 2018-January 399-403	2018	Current researches on the relationship between knowledge accumulation and technological innovation capability present inconsistent conclusion. This study proposes a framework that aims to explain how technological innovation capability evaluates in latecomers in the perspective of knowledge accumulation. To identify regularities in the process of catch-up cycle, this study develops a theoretical model and a system dynamics model to explore the dynamic relationship. Our analysis demonstrates that the improvement of technological innovation capability is not increased by knowledge stock itself, but the way of knowledge accumulation. Latecomers should adjust to a more systematic perspective to create and obtain knowledge value. © 2018 IEEE.	catch-up cycle Dynamic interaction Innovation capability Knowledge accumulation Knowledge value System dynamics model Technological innovation capability Theoretical modeling	To explain how technological innovation capability evaluates in latecomers in the perspective of knowledge accumulation.	The analysis shows that the improvement in technological innovation capacity is not increased by the stock of knowledge itself, but by the form of accumulation of knowledge.	Evaluate the relationship between the accumulation of knowledge and the capacity for technological innovation	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
46	Improving the Innovation Capability of Environmental Science and Technology to Support Environmental Management and Decision-Making: Demands, Challenges and Countermeasures [增强环保科技创新能力支撑环境管理决策:需求•挑战•对策],	Li, H. (2018). Improving the innovation capability of environmental science and technology to support environmental management and decision-making: Demands, challenges and countermeasures. [增强环保科技创新能力支撑环境管理决策:需求•挑战•对策] Research of Environmental Sciences, 31(2), 201-205	2018	China's environmental protection is facing profound changes in the new era. To meet the people's ever-growing needs for high-quality ecology has become the principal contradiction of environmental protection in the new era. In order to meet the new demands of ecological civilization and environmental protection proposed at the 19th CPC National Congress, and in accordance with the principle of'environmental science and technology serves the ordinary people', the future environmental situation and demands for innovation were analyzed. Then four key tasks to promote the development of environmental science and technology (S & T) innovation centering on the aim of green development and environment quality improvement were proposed, including completely improving the capability and level to provide S & T service for the green development of national economy, making efforts on dealing with outstanding environmental issues for continuous improvement of environmental quality, strengthening ecosystem protection to promote the harmony of human and nature, and promoting the system and mechanism innovation of environmental S & T to support the environmental management and decision-making. Finally, five suggestions to improve the system and mechanism of environmental S & T innovation were proposed: (1) to improve the management of platform construction, internationalization, industrialization, standardization and information to accelerate the construction of modern environmental science research institutes system	Environmental quality Scientific and technological innovation Management and decision-making Reform of scientific research system	Analyze the future environmental situation and the demands for innovation and promote the development of innovation in environmental science and technology (S&T) focused on the objective of green development and improving the quality of the environment	In this study five suggestions are proposed to improve the system and mechanism of innovation in environmental S&T: improve the management of the construction of platforms, internationalization, industrialization, standardization and information to accelerate the construction of a modern system of research institutes in environmental science	Respond to the new demands for ecological civilization and environmental protection proposed in the XIX National Congress of the CPC	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
47	Evaluation of sustainable competitiveness through innovation,	Cavaco, N. M., & Cruz Machado, V. (2018). Evaluation of sustainable competitiveness through innovation. International Journal of Systematic Innovation, 5(2), 7-17	2018	Clients' continuous expectation increase and the need to be ahead of competitors, cause a huge pressure in companies and aggressiveness into markets. Due to this fact, companies' need to be in permanent change to gain competitiveness. One way to achieve this aim is through innovation. But the question is How? Where to innovate? Innovation at any cost? What kind of impacts should be expected? Is it possible to evaluate companies' innovation skills and stablish a relation with outcomes? This paper provides a model that contributes to competitive advantage creation through innovation integrating concerns about sustainability, based on the triple bottom line principles. Therefore, the model promote innovation preserving a balance between economic, social and environmental results. The model is based on 7 competitiveness drivers, which include all key factors of a company, and allow the evaluation of companies' resources to be innovative, taking into account requirements structured in 8 proficiency levels. Additionally, the model allow the evaluation of the companies' competitive advantage, considering innovation indicators, related to each competitiveness driver. This evaluation promotes another perspective of companies' innovation capability, as well as the identification of opportunities to improvements, concerning the areas where companies have lower scores regarding innovation resources and results. This model, in this perspective is an added value tool, once it allows a more focused approach about innovation priorities, taking into account that innovation cannot be just considered	Competitiveness Evaluation Innovation Strategic planning Sustainability	Evaluate the competitive advantage of companies, considering innovation indicators, related to each competitiveness engine.	The model is based on 7 competitiveness drivers, which include all key factors of a company, and allow the evaluation of companies' resources to be innovative, taking into account requirements structured in 8 proficiency levels.	Promote another perspective of the innovation capacity of companies, as well as the identification of opportunities for improvement, in areas where companies have lower scores in resources and innovation results.	Portugal

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
48	Karakuri iot – the concept and the result of pre-study,	Yamamoto, Y., Sandström, K., & Munoz, A. A. (2018). Karakuri iot – the concept and the result of pre-study. Paper presented at the Advances in Transdisciplinary Engineering, , 8 311-316	2018	Although scholars and practitioners are actively discussing the potential benefits of introducing Internet of Thing (IoT) in production, IoT is still as an expensive solution in terms of investment and high technological threshold. Manufacturing companies seek a simpler and lower-cost approach to adopting IoT technologies in production, allowing companies to take advantage of the knowledge and innovation capabilities of people close to shop floor operations. This paper introduces the concept of "Karakuri IoT" – simple and low-cost IoT-aided improvements driven by the people close to shop floor operations. A pre-study is conducted to examine the feasibility of the concept. This paper presents the results of the pre-study. © 2018 The authors and IOS Press. All rights reserved.	Innovation capability Internet of Things (IOT) Kaizen Karakuri Low costs Manufacturing companies Potential benefits Shop floor	Introduce the concept of "Karakuri IoT" - Simple, low-cost IoT-assisted improvements driven by people close to plant operations	A preliminary study is carried out to examine the feasibility of the "Karakuri IoT" concept. This article presents the results of the previous study.	Adopt IoT technologies in production, enabling companies to harness the knowledge and innovation capabilities of people close to plant operations.	Suecia

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
49	Building leadership and innovation capacity through the coaching support programme: A case study,	Rosha, A., & Lace, N. (2018). Building leadership and innovation capacity through the coaching support programme: A case study. Paper presented at the WMSCI 2018 - 22nd World Multi-Conference on Systemics, Cybernetics and Informatics, Proceedings, , 225-30	2018	The article presents the development of the coaching support programme for leadership and innovation capability improvement. The programme is designed in the context of a five-stage organisational life cycle theory. The article focuses on the building the theoretical background based on the analysis of the literature. The present article briefly reports on the key findings of the literature review which constitute the principals of the coaching support programme and focuses on the consistency of the applied forms and types of coaching with the life cycle stages and the typical components of coaching process. The research is based on a case study method. A case of the programme implementation describes the model of the programme delivery and the preliminary stage of the programme in the organization which operates in wholesale business and runs a direct sales model. © 2018 International Social Science CouncilISSC. All rights reserved.	Coaching Support Programme Innovation capability Innovation capacity Leadership Life cycle theories Organisational Programme implementation Wholesale business	Present the development of the coaching support program to improve leadership and innovation skills.	This article briefly reports on the key findings of the literature review that constitute the principles of the coaching support program and focuses on the coherence of the applied forms and types of coaching with the life cycle stages and typical components. of the coaching process. The research is based on a case study method.	Improve leadership and innovation capacity	Letonia

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
50	Cognition & innovation: Roles of cognitive neuroscience in fostering awareness of innovation in manufacture industry,	Zhang, C., & Wang, J. (2018). Cognition & innovation: Roles of cognitive neuroscience in fostering awareness of innovation in manufacture industry. NeuroQuantology, 16(6), 301-307.	2018	This paper explores what is the role the Cognitive Neuroscience plays in cultivating manufacture innovation consciousness. Under a CN model as built here, we analyze the CN about its impact on manufacturing innovation and introduce data about it in China's manufacture industry in attempt to make an empirical study on it. Study finds that as this academic level has advanced up to a new high record, it has exerted a significant catalytic effect on manufacture innovation capacity, especially on high-tech-intensive industries. More of that, foreign direct investment, tangible capital accumulation, workers' education levels and investment in R&D also contribute much to the improvement of innovation capabilities. © 2018, Anka Publishers. All rights reserved.	EMTREE medical terms article awareness catalysis China cognitive neuroscience education empiricism human human experiment investment worker	Conduct an empirical study for the impact of knowledge neroscience on manufacturing innovation in China's manufacturing industry.	This study explores what role cognitive neuroscience plays in cultivating awareness of manufacturing innovation.	Contribute to the improvement of innovation capacities.	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
51	Social capital and the identification of valuable knowledge for knowledge acquisition: A case study,	Ortiz, B., Donate, M. J., & Guadamillas, F. (2018). Social capital and the identification of valuable knowledge for knowledge acquisition: A case study. European Journal of International Management, 12(3), 278-294.	2018	Immunostep is a biotechnological company which has developed an external knowledge acquisition strategy based on the utilisation of its social capital and its capability to recognise and assimilate valuable new knowledge for the improvement of its innovation capabilities. The main advantages that social capital management provide to this company are: (1) the development of strong and close ties with other firms and institutions for the purposes of knowledge exchange (development of structural social capital), (2) the achievement of a high reliability in its business relationships (development of relational social capital), and (3) the establishment of compatible objectives and shared cultural values with a number of external agents (development of cognitive social capital). In turn, this case study shows that the way social capital is strategically managed by a firm is an essential aspect for the successful development of knowledge acquisition. Moreover, the success of the integration and use of the knowledge acquired depends strongly on the firm's capability to correctly identify, assess, and anticipate the potential value of such external knowledge. Copyright © 2018 Inderscience Enterprises Ltd.	Absorptive capacity Case study Immunostep Knowledge acquisition Knowledge identification Social capital Spain	Analyze the strategy implemented by the biotechnology company Immunostep for the acquisition of external knowledge based on the use of its social capital and its ability to recognize and assimilate new valuable knowledge to improve its innovation capabilities.	This case study shows that the way a company strategically manages social capital is a fundamental aspect for the successful development of knowledge acquisition. Furthermore, the successful integration and use of acquired knowledge is highly dependent on the company's ability to correctly identify, evaluate and anticipate the potential value of such external knowledge.	Recognize and assimilate new valuable knowledge to improve innovation capabilities.	España

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
52	Factors influencing technology and innovation capability in the Nigerian indigenous oil firms,	Akinwale, Y. O., Akinbami, J. -. K., & Akarakiri, J. B. (2018). Factors influencing technology and innovation capability in the nigerian indigenous oil firms. International Journal of Business Innovation and Research, 15(2), 247-268	2018	This study investigated the factors influencing technology and innovation capabilities in Nigerian indigenous oil and gas firms. Primary data were collected through the use of questionnaire to elicit information from 150 indigenous oil firms. The result of the ordered logit regression showed that the extent of the firm's R&D captured by in-house R&D and R&D fund allocation were significant at 10% level of significance. Also, work experience of staff, qualification of staff and size of technical staff which captured human and knowledge capital of firm were significant in influencing the firms' technology capabilities. Acquisition of advanced machinery, firm's size and age and training were also significant in influencing technology capabilities of indigenous oil firms. The study suggests that both government and industry should ensure improvement in extensive training, R&D and education of the work force to enhance local capabilities in oil and gas field development. © 2018 Inderscience Enterprises Ltd.	indigenous oil firms logit regression Nigeria R&D technology and innovation capability training	Investigate the factors influencing technology and innovation capabilities in indigenous Nigerian oil and gas companies.	In this study, primary data were collected using a questionnaire to obtain information from 150 indigenous oil companies. The result of the ordered logit regression showed that the scope of the company's R&D captured by internal R&D and the allocation of R&D funds was significant at the 10% significance level.	Improve local capacities in the development of oil and gas fields in Nigeria	Nigeria
53	Developing innovation capability in a mass production organization,	Dolsen, M., & Chinnam, R. B. (2017). Developing innovation capability in a mass production organization. Journal of Enterprise Transformation, , 1-23	2017	Mass production firms in high labor cost environments need to develop a capability of continuous innovation to survive in the global marketplace. This need is complicated by the “productivity dilemma”	case study research innovation capability mass production	Compare the performance of the innovation implementation within an organization during a stable period	This study focuses on Tier 12 automotive parts suppliers with high labor costs in North America. Every region of the world is home to important original equipment Manufacturers (OEMs) operating assembly plants in all	Develop continuous innovation capabilities in mass production companies to survive in the global market.	USA

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
							three regions.		
					organizational ambidexterity				
					productivity dilemma				
54	Towards innovation excellence: Why and how to measure innovation performance?,	El Bassiti, L., & Ajhoun, R. (2017). Towards innovation excellence: Why and how to measure innovation performance? Paper presented at the Proceedings - 6th International Conference on Information and Communication Technology for the Muslim World, ICT4M 2016, 99-104.	2017	To maintain competitive advantage, today organizations need to be able to innovate - not just occasionally, but consistently. Mastering the process of innovation requires identifying the factors that support or hamper the achievement of innovations. The success of such process usually depends on the quality of the best opportunity identified, which is not enough. So, a systematic research and delivery framework spawning a set of performance measurements and improvement metrics is required, because, what is not measurable cannot be neither managed nor improved. This paper identifies three complementary components specifically developed to enable such measurement. First, Innovation Granularity Scales enabling highly targeted yet flexible performance analysis ranging from knowledge assessment to high level progressions and improvements	Competitive advantage	Identify the factors that support or hinder the achievement of innovations.	This document identifies three complementary components developed specifically to enable measurement of innovation. First, innovation granularity scales enable highly specific yet flexible performance analysis ranging from knowledge assessment to high-level progressions and improvements.	Generate a set of performance measures and innovation improvement metrics.	Marruecos
					Innovation assessment				
					Innovation capability				
					Innovation measurements				
					Innovation performance				
					Knowledge assessment				
					Performance analysis				
					Performance measurements				

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
55	Relating innovation with learning capability in Portuguese SME´s,	Matos, F., Vairinhos, V., Correia, S., & Do Rosário Cabrita, M. (2017). Relating innovation with learning capability in portuguese SME´s. Paper presented at the Proceedings of the European Conference on Intellectual Capital, , 2017-April 221-229	2017	In the contemporary global economy, the survival and competitiveness of the market presses organizations to adopt new organizational formats, as well as new business models. Learning organizations have emerged in this context. These organizations have knowledge management as one of its main features. They use it as a tool for organizational learning, betting in knowledge acquisition as a continuous improvement process. A learning organization is an organization that can incorporate new knowledge and skills in its own structures and processes. This means that a learning organization is also an organization that is continuously increasing its intellectual capital (IC). An increase in IC is generally acknowledged as a cause for an increase of innovation capabilities. So, learning organizations are expected to increase its innovation capabilities either directly or indirectly through IC. The purpose of this paper is to investigate possible relationships between learning capability, innovation capability and intellectual capital increasing in learning organizations. The data used in this paper expresses the perceptions from 60 Portuguese SME´s innovation managers, collected from a sample of SME´s, analysed with multivariate data analysis techniques, as biplots and PLS to estimate structural equations models. Although the results are encouraging, suggesting causal relationships between organizational learning, innovation and intellectual capital, it should not be forgotten that the conclusions are based not in the measurement of physical and economic variables but in opinions and perceptions of specialists that may suffer from eventual biases due to their functions as innovation managers. So, future research in this direction is needed, using observational or experimental data.	Causality Innovation Intellectual Capital Learning organization	Investigate the possible relationships between learning capacity, innovation capacity, and increased intellectual capital in learning organizations.	The data used in this work express the perceptions of 60 Portuguese SME innovation managers, collected from a sample of SMEs, analyzed with multivariate data analysis techniques, such as biplots and PLS to estimate structural equation models.	Increase innovation capacities in learning organizations, directly or indirectly through intellectual capital.	Portugal

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
56	Customer relationship management: Innovation and performance,	Valmohammadi, C. (2017). Customer relationship management: Innovation and performance. International Journal of Innovation Science, 9(4), 374-395	2017	Purpose - The aim of this study is to empirically test a framework which identifies the relationships between customer relationship management (CRM) practices, organizational performance and innovation capability of Iranian manufacturing firms. Design/methodology/approach - Data for the study were collected from a sample of 211 Iranian manufacturing firms. The research model was tested using structural equation modeling. Findings - The results reveal that CRM practices have a positive and significant, though weak, effect on organizational performance and innovation capability of Iranian manufacturing organizations. Innovation improvement caused by CRM also results in better organizational performance. Research limitations/implications - Because this study is conducted in Iranian manufacturing organizations, it implies that the generalizability of this study's findings is limited to the manufacturing firms in Iran and cannot be applied to other markets without a further validation. Practical implications - This empirical research has extended our understanding of CRM components and their impact on business performance and innovation capability of Iranian manufacturing firms which have not been addressed together in previous empirical studies in Iran. Also, the obtained findings offer the Iranian manufacturing executives and managers strategic insights in relation to CRM implementation, CRM items and, more importantly, the most influential components of CRM on the manufacturing organizations' performance and innovation. Originality/value - This paper shows the importance of CRM practices and how they directly influence organizational and innovation capabilities of the Iranian firms. This study is among the few studies which attempt to empirically investigate the relationships between these variables particularly in the context of Iran. © Emerald Publishing Limited	Business performance Customer relationship management Design/methodology/approach	To empirically test a framework which identifies the relationships between customer relationship management (CRM) practices, organizational performance and innovation capability of Iranian manufacturing firms.	Data for the study was collected from a sample of 211 Iranian manufacturing companies. The research model was tested using structural equation models. The results reveal that CRM practices have a positive and significant, albeit weak, effect on the organizational performance and innovation capacity of Iranian manufacturing organizations	Analyze the importance of CRM practices and how they directly influence the organizational and innovation capabilities of Iranian companies.	Iran

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
					Innovation capability				
					Iran				
					Manufacturing organizations				
					Organizational performance				
					Structural equation modeling				
57	The effects of supply chain fairness and the buyer's power sources on the innovation performance of the supplier: a mediating role of social capital accumulation,	Kim, K. -., Lee, J. S., & Lee, S. -. (2017). The effects of supply chain fairness and the buyer's power sources on the innovation performance of the supplier: A mediating role of social capital accumulation. Journal of Business and Industrial Marketing, 32(7), 987-997.	2017	Purpose: This study aims to examine the effects of contractual fairness and power sources on the relationship between the buyer and supplier on the innovation performance of the supplier. The mediating role of social capital accumulation between fairness, power and innovation performance was empirically explored. Design/methodology/approach: Hypotheses were developed to investigate the relationships between supply chain fairness, power sources, social capital and innovation performance. Using structural equation modeling, the hypotheses were tested on data of 209 responses collected from supplying firms in South Korea. Findings: This study finds that supply chain contractual fairness and referent power use contribute to the innovation performance of the supplier through social capital accumulation between the buyer and supplier. Coercive power, in contrast, impedes the performance improvement of the supplier. Originality/value: This study provides supply chain practitioners, academics and policy-makers with guidance on how to facilitate and enhance innovation capabilities and performance across the supply chain. By applying social capital theory, this study also provides theoretical underpinning of the literature on supply chain fairness, power and innovation. © 2017, © Emerald Publishing Limited.	Fairness	This study aims to examine the effects of contractual fairness and power sources on the relationship between the buyer and supplier on the innovation	In this study, the mediating role of social capital accumulation between equity, power and innovation performance was empirically explored.	Investigate the relationships between supply chain equity, energy sources, social capital, and innovation performance.	Korea
					Innovation performance				
					Power				
					Social capital				
					Supply chain management				

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
58	How knowledge flow affects Korean ICT manufacturing firm performance : a focus on open innovation strategy,	Kim, S., Kim, H., & Kim, E. (2016). How knowledge flow affects korean ICT manufacturing firm performance: A focus on open innovation strategy. Technology Analysis and Strategic Management, 28(10), 1167-1181.	2016	The paper presents an integrated viewpoint of technological innovation strategy by considering both the firm and industry levels. Further, we provide a new open innovation framework by adopting a knowledge flow perspective using patent citation information. Finally, we consider a firm's outbound open innovation performance using cites per patent information together with financial performance to look at both the practical and the potential effects of technological innovation strategy. Through these analyses, this study examines determinants of open technology innovation activity in the information and communication technology manufacturing industry in Korea and draws managerial and policy implications for effective industry promotion and improvement of technology innovation capability. © 2016 Informa UK Limited, trading as Taylor & Francis Group.	Regional Index GEOBASE Subject Index industrial performance information and communication technology innovation knowledge manufacturing technological development	To provide a new open innovation framework by adopting a knowledge flow perspective using patent citation information	This study examines the determinants of open technology innovation activity in the information and communication technology manufacturing industry in Korea and draws managerial and policy implications for effective industry promotion and enhancing innovation capacity. technological	Present an integrated point of view of the technological innovation strategy considering both the company and the industry level.	Korea

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
59	IMPROVING INNOVATION CAPABILITIES by COOPERATION: EXAMINING EFFECTS of CORE NETWORK MANAGEMENT FUNCTIONS and RELATIONAL MECHANISMS in the INDUSTRIAL GOODS SECTOR,	Weber, B., & Heidenreich, S. (2016). IMPROVING INNOVATION CAPABILITIES by COOPERATION: EXAMINING EFFECTS of CORE NETWORK MANAGEMENT FUNCTIONS and RELATIONAL MECHANISMS in the INDUSTRIAL GOODS SECTOR. International Journal of Innovation Management, 20(7)	2016	For companies, cooperation represents a way to innovate more effectively. Within this respect, past literature stresses the importance of core network management functions and relational mechanisms for the effectiveness of interorganisational cooperation. However, it is still unclear whether and how core network management functions and relational mechanisms improve a firm's innovation capability from interorganisational cooperation. Based on data of 154 industrial companies, the results from structural equation modelling provide evidence that core network management functions significantly enhance innovation capability improvement of individual firms by interorganisational cooperation. Furthermore, both formal and informal relational mechanisms partially mediate the impact of core network management functions on innovation capability improvement. With regard to informal relational mechanisms, companies should foster trust, guarantee equal power distribution and ascribe high importance to their cooperation. With regard to formal relational mechanisms, companies should provide organisational support to their cooperation, continuously share knowledge with their partners and also meet and communicate on regular basis. © 2016 World Scientific Publishing Europe Ltd.	cooperation innovation capability Innovation management network management functions relational mechanisms	Analyze whether the central functions of network management and relational mechanisms improve the innovation capacity of a company based on interorganizational cooperation.	The study analyzed data from 154 industrial companies, the results of the modeling of structural equations provide evidence that the management functions of the core network significantly improve the improvement of the innovation capacity of individual companies through inter-organizational cooperation.	Verify if the central network management functions and the relational mechanisms improve the innovation capacity of a company based on inter-organizational cooperation.	Alemania

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
60	Case analysis of imitative innovation in Chinese manufacturing SMEs: Products, features, barriers and competences for transition,	Yu, X., Yan, J., & Assimakopoulos, D. (2015). Case analysis of imitative innovation in chinese manufacturing SMEs: Products, features, barriers and competences for transition. International Journal of Information Management, 35(4), 520-525.	2015	Instead of viewing imitation and innovation as two opposite extremes, this research views firms' new product development as a continuous spectrum in which pure imitation at the one end and original innovation at the other. Firms change their position gradually by means of continuous organizational learning and systematic improvement in R&D capability during the imitative innovation process. Novelty and originality of innovations were increased gradually, and finally firms are able to carry out original innovations with good novelty. This case study investigates how the Chinese manufacturing SMEs go through this process. Drawing upon a multiple case study approach, this research in particular addresses the following questions: How do Chinese firms transit from pure imitation to original innovation through imitative innovation? What barriers may firms encounter in each stage of the transition? What competences do firms need to develop in order to make the transition successfully? Through appropriate Chinese manufacturing SMEs design they may improve their innovation capability to enable support to governmental policy making. © 2015 Elsevier Ltd. All rights reserved.	China Continuous spectrum Governmental policies Innovation capability Multiple-case study New product development Novelty Organizational learning	Analyze how Chinese companies move from pure imitation to original innovation through imitative innovation	This case study investigates how Chinese manufacturing SMEs started by imitating products but then moved from imitation to producing quality products through continuous organizational learning and systematic improvement of R&D capacity during the imitative innovation process.	Obtain an appropriate design so that Chinese manufacturing SMEs can improve their innovation capacity to allow support for the formulation of government policies	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
61	A framework towards an open innovation approach for SMES,	Krause, W., & Schutte, C. (2015). A framework towards an open innovation approach for SMES. Paper presented at the IAMOT 2015 - 24th International Association for Management of Technology Conference: Technology, Innovation and Management for Sustainable Growth, Proceedings, 1026-1045	2015	The literature indicates that implementing Open Innovation as a formal management practice in organisations remains a challenge. Open Innovation (OI) is receiving increased focus in academia and industry, but practical implementation and application guidance for users are still limited. This is even more relevant for the application of Open Innovation in small and medium sized enterprises (SME). Open Innovation is still largely an emerging field of research in academia, with larger organisations receiving most of the focus. In this paper the authors introduce a framework for the development of an Open Innovation approach for SMEs, based on models and frameworks from the literature. Following a design sciences method, the authors review various models and frameworks on innovation and general implementation best practices, and deduct core elements that can be applied in an Open Innovation Framework. The framework is based on a continuous improvement cycle that aims to mature the Open Innovation capability within the organisation through various iterations. The framework comprises of four main components, six sub-components and twenty three core elements. The four main components of the framework are: Plan and Prepare for OI, Perform OI, Measure and Evaluate OI, and Improve and Mature OI. The framework suggested in this paper can be used towards the development of an Open Innovation approach for SMEs. Such an approach should include descriptive elements for the implementation and application of Open Innovation within the context of SMEs. Copyright © 2015 by Stellenbosch University.	Best practices Continuous improvements Innovation management Management practices Open innovation Small- and medium-sized enterprise SMEs Sub-components	Present a framework for the development of an Open Innovation approach for SMEs, based on models and frameworks from the literature.	The authors review various models and frameworks on innovation and general implementation best practices, and deduce the core elements that can be applied in an Open Innovation Framework.	Maturing the capacity for open innovation within the organization through several iterations.	South Africa
62	The improvement of independent innovation capability in petroleum equipment manufacturing industry	Wang, Y. Q., Jin, Q. Y., Gong, Y. F., & Sun, M. M. (2014). The improvement of independent innovation capability in petroleum equipment manufacturing industry based on knowledge integration doi:10.4028/	2014	Choose the correct knowledge integration pattern is beneficial to enhancing the independent innovation capability in petroleum equipment manufacturing industry. Analysis elements of the knowledge integration ability and the independent innovation ability, with knowledge	Breakthrough point	Enhance the capacity for independent innovation in the petroleum equipment manufacturing industry			SUIZA

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
	based on knowledge integration,			integration capability as the breakthrough point, the knowledge integration effect as the intermediary variable, constructs the model of the independent innovation capability in equipment manufacturing - the knowledge integration capacity, puts forward the independent innovation in petroleum equipment manufacturing industry should adopt the three kinds of knowledge integration mode. © (2014) Trans Tech Publications, Switzerland.	Equipment manufacturing		The study analyzes the effect of knowledge integration as an intermediate variable to build the model of independent innovation capacity in equipment manufacturing - knowledge integration capacity, proposes independent innovation in the petroleum equipment manufacturing industry	Investigate the elements of analysis of the capacity for integration of knowledge and the capacity for independent innovation	
					Equipment manufacturing industries				
					Independent innovation				
					Independent innovation ability				
					Integration mechanisms				
					Knowledge integration				
					Knowledge integration capability				

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
63	A systematic approach for evaluating innovation management in construction companies,	Serpell, A., & Alvarez, R. (2014). A systematic approach for evaluating innovation management in construction companies. Paper presented at the Procedia Engineering, , 85 464-472. doi:10.1016/j.proeng.2014.10.573	2014	The increasing competition within the construction industry has created a growing concern for innovation, being appreciated as an important lever for competitive advantage. However, despite its need, there are some critical barriers that make innovation in construction very difficult. In addition, the perceived risk of innovation is almost unacceptable to the sector's culture. These factors limit the innovation efforts being made. Thus, appropriate mechanisms are needed to overcome these limitations and propose actions to promote innovation and innovation management in constructions' firms. The aim of this paper is to describe an approach to innovation management that includes a system for evaluating the status of innovation management in construction companies (SEGi by its acronym in Spanish), i.e., all activities undertaken by a company to integrate innovation opportunities to improve its performance. The system has been structured based on both quantitative and qualitative methods, whose application allows evaluating the state of innovation management and generating proposals for actions to solve the detected limitations. The research methodology is described together with the development of the system for evaluating innovation management, the results of the study of three construction companies that participated in the application of the system and the main conclusions of the study. The proposed evaluation system can be used to promote the development and improvement of innovation capabilities within construction companies. Additional results of the study are the identification of six major innovation drivers that are important for construction companies. © 2014 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license.	Competitive advantage Construction companies Evaluation Innovation in construction Innovation management Quantitative and qualitative methods Research methodologies System	Describe an approach to innovation management that includes a system for evaluating the state of innovation management in construction companies (SEGi), that is, all the activities carried out by a company to integrate innovation opportunities to improve its performance	The research methodology is described together with the development of the innovation management evaluation system, the results of the study of three construction companies that participated in the application of the system and the main conclusions of the study. The proposed evaluation system can be used to promote the development and enhancement of innovation capacities within companies.	Propose actions to promote innovation and innovation management in construction companies	Chile

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
64	The role of TQM in strategic product innovation: An empirical assessment,	Silva, G. M., Gomes, P. J., Lages, L. F., & Pereira, Z. L. (2014). The role of TQM in strategic product innovation: An empirical assessment. International Journal of Operations and Production Management, 34(10), 1307-1337. doi:	2014	Purpose-The purpose of this paper is to study the effect of total quality management (TQM) resources on strategic product innovation. It addresses the apparent tension between quality management and innovation management and seeks empirical support for the proposition that qualitymanagement resources can be used to support strategic innovation. Based on resource-based view, it defines key resources that firms develop during implementation of TQMsystems: TQM culture, product design capability, and process improvement capability-and assesses the role of these resources in the success of product innovation. Design/methodology/approach-A survey of 112 manufacturing firms was conducted and the resulting data were analyzed using partial least squares (PLS) to determine how TQM constructs affect strategic product innovation. Findings-The main finding suggests that only product design capability contributes to strategic product innovation. TQM culture has a direct influence on process improvement and product design capabilities but not on product innovation. The effect of innovation capability and innovation orientation on product innovation was only supported for innovation capability. The effect of innovation orientation is mediated by the development of innovation capability. Research limitations/implications-The paper focusses on the level of maturity of capability development without taking into consideration the time since adoption. Also, the measure of product innovation is based on the degree of product newness but does not dichotomize in terms of radical vs incremental. Several arguments supporting a negative relationship between TQM and innovation often refer to radical or breakthrough innovation. It would be interesting to test the model while distinguishing between radical and incremental innovation. The use of cross-sectional data is a methodological limitation. Practical implications-The results suggest that managers can leverage their quality management systems to support product innovation. In particular, the ability to design quality into products leads to higher levels of strategic production innovation. The successful deployment of TQM capabilities requires an integrative and well-structured approach, involving top leadership engagement of employees and customer orientation. While TQM culture is critical to the development of quality management capabilities, it does not directly affect the innovativeness of a firm. Originality/value-The paper explores the relationship between quality management systems and strategic product	Competitive advantage Innovation Quality management Resource-based view (RBV) Survey research	To study the effect of total quality management (TQM) resources on strategic product innovation.	The study conducted a survey of 112 manufacturing companies and the resulting data was analyzed using partial least squares (PLS) to determine how TQM constructs affect strategic product innovation.	Test whether the effect of TQM on strategic innovation is different for radical and incremental products, and for other innovation outcomes such as process and service innovation.	Portugal

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
				innovation. Further work is needed to test whether TQM effect on strategic innovation is different for radical and incremental products, and for other innovation outcomes such as process and service innovation. © Emerald Group Publishing Limited.					
65	An instructional cycle for enhancing innovation-embedded employability,	Chang, C. -. (2014). An instructional cycle for enhancing innovation-embedded employability. Education and Training, 56, 870-883. doi	2014	Purpose: The capability of innovation is a major component of high-education students' employability. The purpose of this paper is to introduce an instructional cycle specific to information technology-related disciplines that helps improve the students' innovation capability and their employability.Design/methodology/approach: Literature review, expert adviceand quasi-experiments are used. Instructional activities were developed out of the innovative instructional cycle proposed in this study, which was adjusted in line with the opinions of 30 experts. Teaching experiments were then conducted on 120 college students to understand how well that instructional cycle leads to improvements regarding each creativity indicator, and how feasible the cycle's employability enhancement approach is.Findings: This study concluded eight indicators of employable creativity: the sensitivity to problems, organizing/integration ability, complexity, originality, flexibility, novelty, fluency and the desire to create.Research limitations/implications: This study does not focus on how creative thoughts are used to form a mental model that makes students more flexible and adaptable in workplaces.Originality/value: The contribution of this study lies in successfully verifying this "cycle" proposed has positive, beneficial effects on shaping a student's employability. © Emerald Group Publishing Limited.	Creativity Employability Innovation Quasi-experimental	The objective of the study is to present a cycle of specific instruction for disciplines related to information technology that helps to improve the innovation capacity of students and their employability.	Teaching experiments were carried out on 120 college students to understand how well that cycle of instruction leads to improvements with respect to each indicator of creativity, and how feasible the approach to improving the employability of the cycle is.	Improve the innovation capacity of students and their employability.	Taiwan

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
66	Analysis of the interaction between enterprise knowledge innovation and talent management,	Luo, G., Wang, Y., Bian, W., & Lin, S. (2014). Analysis of the interaction between enterprise knowledge innovation and talent management. Paper presented at the WIT Transactions on Information and Communication Technologies, , 52 153-160	2014	This paper researched on knowledge innovation (KI) and talent innovation management of enterprises based on technology innovation (TI), constructed to measure enterprise technology innovation (ETI) talent quality model, analysis of the management in the ETI process of KI and talent. It put forward some suggestions, improving the ability of technological innovation of enterprise KI and talent management. It also provided evidence for a common improvement of enterprise KI ability, management ability of talents, and ability of TI. © 2014 WIT Press.	Enterprise technology innovations Innovation capability Innovation management Knowledge innovation Management ability Talent management Technological innovation Technology innovation	Research on the knowledge innovation (KI) and the management of the innovation of the talent of the companies based on the technological innovation (IT), built to measure the quality model of the talent of the business technological innovation (ETI), analysis of the management in the ETI process of KI and talent.	In the development of this study, some suggestions are presented to improve the technological innovation capacity of the business KI and talent management.	Provide evidence of a common improvement in enterprise KI capability, talent management capability, and IT capability.	China
67	The way to the improvement of firm's independent innovation capability based on following innovation-a successful case of huawei company,	Gan, Z., Shang, Y., & Liu, X. (2014). The way to the improvement of firm's independent innovation capability based on following innovation-a successful case of huawei company. Paper presented at the WIT Transactions on Information and Communication Technologies, , 52 137-143	2014	In the increasing intense market competition, independent innovation capability is the key to attain competitive advantage for companies. Through the research of Huawei case, we find that innovation capability improving is an outcome of multifactors interacting. In its improving process of innovation capability, the following innovation pattern is adopted, meanwhile having sustainable organization and process change, and strengthening intellectual property management, and go the path of open innovation, which provides good example for Chinese companies. © 2014 WIT Press.	Competitive advantage Independent innovation Innovation capability Innovation patterns Innovative capability Intellectual property management Management innovation Market competition	Investigate the case of Huawei, to analyze the improvement of innovation capacity	Through this investigation of the Huawei case, we found that the improvement in innovation capacity is the result of the interaction of multiple factors. In its innovation capacity improvement process, the following innovation pattern is adopted, while having a sustainable organization and process change, and intellectual property management is strengthened, and the innovation path is followed open, which provides a good example for Chinese companies.	Achieve a competitive advantage for companies	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
68	Innovation training within the Australian advanced manufacturing industry,	Donovan, J. D., Maritz, A., & McLellan, A. (2013). Innovation training within the australian advanced manufacturing industry. Journal of Vocational Education and Training, 65(2), 256-276	2013	Innovation has emerged as a core driver for the future profitability and success of the manufacturing sector, and increasingly both governments and the private sector are examining ways to support the development of innovation capabilities within organisations. In this research, we have evaluated a government-funded innovation training course designed to improve the capacity of businesses to innovate that are operating in the Australian advanced manufacturing sector. Using a well-regarded training evaluation model we identified the parts of the innovation curriculum that tangibly impacts the approach to innovation activities by manufacturing organisations. These include, most broadly, innovation project management, intellectual propert and open/directed innovation. We also identify that skills-based learning and certain pedagogies seem best suited to achieving improvement in innovation management, specifically a workshop method of delivery, experiential learning, trainers with relevant previous experience, and takeaway tools that participants could utilise in their workplaces. © 2013 Copyright The Vocational Aspect of Education Ltd.	curriculum development evaluation and effectiveness innovation training	Evaluate a government funded innovation training course designed to enhance the ability of companies to innovate operating in Australia's advanced manufacturing sector.	This study uses a training assessment model and identifies the parts of the innovation curriculum that tangibly impact the approach to innovation activities by manufacturing organizations. Innovation project management, intellectual property and open innovation are broadly included.	Improve the development of innovation capacities within organizations	Australia

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
69	The effects of innovation sources and capabilities on product competitiveness in Hong Kong and the Pearl River Delta,	Lau, A. K. W., Baark, E., Lo, W. L. W., & Sharif, N. (2013). The effects of innovation sources and capabilities on product competitiveness in hong kong and the pearl river delta. Asian Journal of Technology Innovation, 21(2), 220-236	2013	It is widely recognized in the theoretical literature that firms need to use both internal and external sources of innovation to gain a competitive advantage. However, although it is assumed that internal and external sources of innovation have distinct relationships with firm capabilities, it is not clear how various innovation sources affect such capabilities, or how or to what extent such relationships affect product competitiveness. This paper examines the effect of diverse sources of innovation on a firm's technological innovation capabilities and the extent to which such capabilities mediate the improvement of product competitiveness. Based on a survey of 200 manufacturing firms in Hong Kong and the Pearl River Delta region, we identify internal departments as a major source of innovation for improving a range of firm capabilities. Acquiring disembodied technology improves learning, resource allocation and organizing capabilities, whereas acquiring embodied technology enhances learning and manufacturing capabilities. We use a hierarchical regression analysis to demonstrate that some sources of innovation, such as internal departments, can lead directly to superior product competitiveness, whereas innovations acquired through conferences and competitors contribute to competitiveness through the mediation effects of resource allocation, marketing and organizing capabilities. © 2013 © 2013 Korean Society for Innovation Management and Economics (KOSIME).	innovation Pearl River Delta product competitiveness sources of innovation technological innovation capability	Examine the effect of various sources of innovation on a company's technological innovation capabilities and the extent to which these capabilities mediate improving product competitiveness.	This study used hierarchical regression analysis to show that some sources of innovation, such as internal departments, can directly lead to superior product competitiveness, while innovations acquired through conferences and competitors contribute to competitiveness through mediating effects of resource allocation, marketing, and organizational capabilities	Analyze the various sources of innovation that affect innovation capabilities and its impact on the competitiveness of the product.	Corea

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
70	Research on improving the technological innovation capability of SMEs by university-industry collaboration,	Xu, D. (2013). Research on improving the technological innovation capability of SMEs by university-industry collaboration. Journal of Engineering Science and Technology Review, 6(2), 100-104	2013	The innovative resource of SMEs themselves is very limited, resulting in low technological innovation capability. The reasons of low technological innovation capability were analyzed. In addition, the mechanism of improving the technological innovation capability of SMEs by University-Industry collaboration was explored from several following sides: enhancing enterprise learning capacity, speeding up the flow of information, the internalization of external talents, realizing the innovation resource sharing and so on. The conclusion of this paper has great significance to University-Industry Collaboration and enhances their innovation capability. © 2013 Kavala Institute of Technology.	Improvement Innovation capability Learning capacity Resource sharing Small and medium-sized enterprise Technological innovation capability University-industry collaboration	Analyze the reasons for the low capacity for technological innovation in SMEs.	In this study, the mechanism for improving the technological innovation capacity of SMEs was explored through collaboration between the university and the industry from the following aspects: improvement of business learning capacity, acceleration of information flow, internalization of external talents , carrying out the exchange of innovation resources, etc.	Explore the mechanism for improving the technological innovation capacity of SMEs through collaboration between the university and industry	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
71	A way to develop knowledge-based independent innovation capability for domestic automobile industry,	Dong, F., & Liu, Z. (2012). A way to develop knowledge-based independent innovation capability for domestic automobile industry. Paper presented at the 2012 International Symposium on Management of Technology, ISMOT 2012, 390-394	2012	This paper attempts to reconstruct the definition of the knowledge-based independent innovation capability. The author explores the knowledge action mechanism of independent innovation capability and puts forward cultivate path of improving knowledge-based independent innovation capability for domestic automobile industry. First, this paper involves the generation process of independent innovation capability for domestic automobile industry based on the principle of knowledge dissemination. In other words, the knowledge is promoted and transformed in the entire independent innovation process, such as knowledge creation, transfer and application. Then, this paper comes to the composition of independent innovation capability. According to the impact of knowledge in the independent innovation process, the independent innovation capability is divided into innovation input capability which is generated in the knowledge generation process, innovation transfer capability which is generated in the knowledge dissemination process and innovation output capability which is generated in the knowledge application process. Secondly, the author puts forward the mechanism of improving independent innovation capability for domestic automobile industry. This mechanism addresses the cycling of three steps including knowledge capital stock, external knowledge absorption and knowledge integration, which would realize the improvement of the competitiveness and independent innovation capability for the companies. And then, this paper identifies the importance on developing independent innovation capability for domestic automobile industry-knowledge capital stock, knowledge integration and transformation, as well as knowledge output management. Finally, the author puts forward the development model, which includes endogenous development, knowledge absorption and knowledge restructuring, and path for the domestic automobile industry to realize independent innovation capability. According to the knowledge inputs, knowledge transfer and knowledge output, we could develop enterprise knowledge and independent innovation capability at the same time, and therefore enhance the independent innovation capability for the domestic automobile industry. © 2012 IEEE.	Endogenous development Independent innovation Knowledge absorptions Knowledge application Knowledge dissemination Knowledge generations Knowledge integration knowledge-based	Rebuild the definition of knowledge-based independent innovation capacity.	The author explores the knowledge action mechanism of independent innovation capability and puts forward cultivate path of improving knowledge-based independent innovation capability for domestic automobile industry.	Develop an independent innovation capacity for the knowledge capital stock of the national automotive industry	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
72	Maximizing Knowledge Work Productivity: A Time Constrained and Activity Visualized PDCA Cycle,	Maruta, R. (2012). Maximizing knowledge work productivity: A time constrained and activity visualized PDCA cycle. Knowledge and Process Management, 19(4), 203-214	2012	This paper initiates a discussion on how to improve the productivity of "knowledge work." To do this, the Plan, Do, Check, and Act (PDCA) cycle used for production team work improvement is redefined to be applicable to individual knowledge work. Applying the "redefined PDCA cycle" to accounts receivable collection has resulted in a remarkable improvement of on-time payment collection ratios and the transformation of a simple collection clerk into a knowledge worker. On the basis of this, the concept of the redefined PDCA cycle was incorporated into a management system applicable to general knowledge work. This was done by incorporating four key mechanisms to push workers for the objective achievement as well as to guide their superiors to provide meaningful on-the-job training. The paper shows the usefulness of the PDCA cycle in enhanced knowledge work achievements as well as in nurturing the innovation capabilities of workers. © 2012 John Wiley & Sons, Ltd.	Plan Do Check and Act (PDCA) production team work	Show the usefulness of the PDCA cycle in improving the achievements of knowledge work, as well as in promoting the innovation capacities of workers	This study redefines the Plan, Do, Check and Act (PDCA) cycle used to improve the work of the production team so that it is applicable to individual knowledge work.	Improve the productivity of "knowledge work".	Japon

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
73	Innovating at the edge: How organizations evolve and embed innovation capability,	Jones, T. (2012). Innovating at the edge: How organizations evolve and embed innovation capability. Innovating at the edge: How organizations evolve and embed innovation capability (pp. 1-350)	2012	All organizations who are looking to improve performance through embracing new ideas, work in new ways, create new products and services, challenge the status quo or redefine their existing business environment have much to gain from this book. 'Innovating at the Edge' not only provides readers with an informed understanding of the latest developments in innovation practice but also presents them with the bigger picture. This enables them to determine how to build these advances into overall development of their own innovation capabilities and how to capitalize on the benefits available to them. Today as the new economy is brought into line with the old, increasing fragmentation of a global economy drives change across multiple sectors. Organizations operating at the leading edge of the innovation paradigm are adopting a whole new set of approaches to help them redefine the present and build the future. Learn how companies such as Egg, Dyson and Smint are redefining their markets, how organizations such as ARM and Qualcomm are deriving their soaring revenues wholly from licensing, and how firms such as Nokia and Nike are constantly evolving their product portfolios and associated value propositions. These real-life examples provide key lessons for all involved in creating and delivering new businesses, products and services. Readers will understand where all these strands fit within an overall context of innovation evolution, and recognise that the inter-relationships between strategy, process and organization are the key enablers for achieving innovation improvements. Firms can then grasp and appreciate what they need to do in order to emulate these innovation leaders operating at the edge of contemporary practice. © 2002, Tim Jones. All rights reserved.	Innovating at the Edge	Enable companies to understand and appreciate what they need to do to emulate innovation leaders operating on the edge of contemporary practice	The study analyzes case studies of companies like Egg, Dyson and Smint that are redefining their markets, organizations like ARM and Qualcomm that derive their growing revenues entirely from licenses, and companies like Nokia and Nike that are constantly evolving their portfolios. of products and associated value propositions.	Demonstrate that the interrelationships between strategy, process and organization are the key enablers to achieve improvements in innovation.	Reino Unido

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
74	The usage of Continuous Improvement's measure and its effect on performance,	Hu, L., Yang, Y., Shi, C., & Tian, Y. (2012). The usage of continuous improvement's measure and its effect on performance	2012	The paper researches the using frequency of Continuous Improvement's measure and the effect on enterprises, performance. With the continuing changes of the society, the enterprises are facing more and more uncertainty and unpredictability. As a continuously incremental process of enterprise's level innovation capability, Continuous Improvement has become an important strategy to maintain the manufacturing competitiveness of the enterprises. Choosing the suitable measures is the key of Continuous Improvement. On the basis of international investigation of Continuous Improvement, the paper analyzes the using frequency of Continuous Improvement's measure and makes a comparison of Chinese, Australian and European enterprises. The results show that foreign enterprises pay more attention to standardized process than Chinese enterprises. Through the analysis of the relationship between Continuous Improvement's measure and Continuous Improvement's performance, the results show that standardized process has a big effect on Continuous Improvement's measure. On the basis of these researches, the paper thinks that Chinese enterprises should increase the understanding and application of standardized process when Chinese enterprises carry out Continuous Improvement. © (2012) Trans Tech Publications, Switzerland.	Continuous improvements Incremental process Innovation capability Measure Paper research Performance Usage	Investigate the frequency of use of the Continuous Improvement measure and the effect on the performance of companies.	Through the analysis of the relationship between the Continuous Improvement measure and the Continuous Improvement performance, the results show that the standardized process has a great effect on the Continuous Improvement measure. Based on these investigations, the document believes that Chinese companies should increase the understanding and application of the standardized process	Maintain the competitiveness of manufacturing companies.	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
75	The role of organizational learning on innovation value chain,	Martowidjojo, A., & Alamsjah, F. (2011). The role of organizational learning on innovation value chain. Paper presented at the APBITM 2011 - Proceedings2011 IEEE International Summer Conference of Asia Pacific Business Innovation and Technology Management, 113-116	2011	Management literature prescribes learning as a source of continuous improvement of innovation process in companies. However, the nature of relationships between learning and innovation is less certain. This paper investigates the role of organizational learning capability in improving the innovation process within Indonesia's most reputable organization across all of its diverse subsidiary companies. A survey was conducted to help better understand and more systematically study this role. The data were collected from a sample of 82 top management executives obtained from 31 subsidiary companies. The results of this research show that organizational learning play a critically important role in enhancing the effectiveness of innovation value chain and should be viewed as a unitary process. © 2011 IEEE.	Continuous improvements Indonesia Innovation capability Innovation process Organizational learning Top management Value chains	Investigate the role of organizational learning capacity in improving the innovation process within Indonesia's most respected organization across its various subsidiary companies.	The data for this study was obtained from a sample of 82 senior executives obtained from 31 subsidiary companies. The results of this research show that organizational learning plays a critically important role in improving the effectiveness of the innovation value chain and should be viewed as a unitary process.	Analyze learning as a source of continuous improvement of the innovation process in companies.	Indonesia

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
76	Strategy of cluster innovation in the economic transformation of resource cities,	Meng, T. (2010). Strategy of cluster innovation in the economic transformation of resource cities. Paper presented at the 2010 International Conference on E-Product E-Service and E-Entertainment, ICEEE2010,	2010	The economic transformation of resource cities is one common worldwide problem. The resource cities in China are confronted with double difficulties at the same time - resource exhaustion and economic system transformation. The economic transformation and social stableness of such cities are the important issues in the development and harmony of China. Industrial clusters are the network organizations of cooperative innovation and the effective polices to improve the regional development. It is very necessary for Chinese cities to improve the innovation and cooperation among organizations by industrial clusters and formulate industrial policies in relevant industries to promote the improvement of regional innovation capability and economic transformation. The resource cities will be transformed from old industrial regions on the core of natural resources and capital into modern industrial cluster on the core of regional innovation capability and competence edge of the industry. This paper analyzes the conception of cluster innovation and introduces some experiences of Britain and Germany, then researches how the Chinese resource cities apply industrial clusters to strengthen the regional innovation capability. ©2010 IEEE.	Britain Chinese cities Cluster innovation Economic system Economic transformation Germany Industrial cluster Industrial policies Network organization Regional development Regional innovation Resource cities Stableness	Analyze the conception of cluster innovation and introduce some experiences from Great Britain and Germany, then investigate how Chinese resource cities apply industrial clusters to strengthen regional innovation capacity.	The data for this study was obtained from a sample of 82 senior executives obtained from 31 subsidiary companies. The results of this research show that organizational learning plays a critically important role in improving the effectiveness of the innovation value chain and should be viewed as a unitary process.	Promote the enhancement of regional innovation capacity and economic transformation in China	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
77	Context of TQM application for NPD in developing countries: An empirical study on deming prize winners from India and Thailand,	Fasil, T., & Osada, H. (2010). Context of TQM application for NPD in developing countries: An empirical study on deming prize winners from india and thailand. Paper presented at the PICMET '10 - Portland International Center for Management of Engineering and Technology, Proceedings - Technology Management for Global Economic Growth, 1647-1654	2010	Developing countries are challenged with intense market competition and are yet to make significant stride in their business performance. Although Total Quality Management (TQM) and New Product Development (NPD) can play major role in this case, empirical research done in justifying TQM's applicability for NPD is limited. Hence, this research is dedicated to study the applicability, methodology, and effects (tangible and non-tangible) of TQM on NPD. The result shows that TQM is effectively used for the development of adaptive products through improvements on Production Technology, NPD system, Product Development, Production process, and Employee know-how. It is also found that TQM revolutionizes conventional R&D system in reducing development costs and time enhancing the innovation capabilities with limited financial commitment in the developing countries. © 2010 IEEE.	Business performance D-system Development costs Empirical research Empirical studies Innovation capability Know-how Market competition New product development Production process Production technology Thailand	Study the applicability, methodology and effects (tangible and non-tangible) of TQM in the development of new products NPD.	The study finds that TQM revolutionizes the conventional R&D system by reducing development costs and time enhancing innovation capabilities with limited financial commitment in developing countries.	Justify the applicability of TQM for the development of new NPD products	India y Tailandia

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
78	Firm survival through a crisis: The influence of market orientation, marketing innovation and business strategy,	Naidoo, V. (2010). Firm survival through a crisis: The influence of market orientation, marketing innovation and business strategy. Industrial Marketing Management, 39(8), 1311-1320	2010	As an outcome of the economic crisis, the global manufacturing sector is collapsing. Focusing on Chinese manufacturing small and medium enterprises (SMEs), this study investigates whether marketing innovation, defined as improvements in the marketing mix, can assist in withstanding the challenges of operating under the current economic conditions. A conceptual model linking market orientation, marketing innovation, competitive advantage and firm survival is tested using structural equation modelling. Three key findings are derived. First, the examined Chinese manufacturing SMEs had a greater perceived likelihood of survival had they developed and sustained a competitive advantage. Second, marketing innovation assisted in developing and sustaining competitive advantages based on differentiation and cost leadership strategies. Third, marketing innovation capabilities improved when the examined manufacturing SMEs were competitor oriented and had good inter-functional capabilities. © 2010 Elsevier Inc.	Small and medium enterprises (SMEs) competitive advantages marketing innovation	Investigate whether marketing innovation, defined as improvements to the marketing mix, can help resist the challenges of operating in today's economic conditions	A conceptual model is tested that links market orientation, marketing innovation, competitive advantage, and company survival using structural equation models.	Find alternatives so that companies in the manufacturing sector can resist the challenges of operating in current economic conditions.	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
79	An action learning method for increased innovation capability in organizations,	Olsson, A., Wadell, C., Odenrick, P., & Bergendahl, M. N. (2010). An action learning method for increased innovation capability in organizations. Action Learning: Research and Practice, 7(2), 167-179.	2010	Product innovation in highly complex and technological areas, such as medical technology, puts high requirements on the innovation capability of an organisation. Previous research and publications have highlighted organisational issues and learning matters as important and necessary for the development of innovation capability. Action learning requires reflection on the ways things are carried out, changes in current actions, implementation and improvement and thereafter another round of reflection. This could be difficult for one organisation to carry out internally and so this research uses a learning network set-up involving several organisations for inter-organisational action learning. The purpose of this article is to describe the learning network set-up used in a current action learning project in the medical technology industry and to discuss the initial experience gained. The research project aims at increasing the innovation capability of the participating organisations. The method used is based on action learning and involves representatives from industrial partners, public health organisations and academic partners. The different organisations run innovation projects over a time period of three years and meet three times a year in learning network sessions with the purpose of developing knowledge by action learning interaction between the different organisations. During these learning network sessions the participants are facilitated to go through different phases: reflection, new concepts, new actions, implementation and new reflection. The paper elaborates on theories of innovation capability and learning networks and thereafter the methods of action research, experiential learning and action learning. The action learning network structure, the experience gained in the initial phases of the project and the experience of action learning and learning networks is then presented. The importance of trust-building between partners in the network in order to facilitate action learning and development of innovation capability is discussed, as is the learning that takes place in the interaction between academics from different disciplines in their interaction with the practitioners. © 2010 Taylor & Francis.	Action learning Innovation capability Inter-organisational learning Learning network Product innovation Trust-building	Increase the innovation capacity of the organizations participating in the study	The method used is based on active learning and involves representatives of industry partners, public health organizations, and academic partners. The different organizations execute innovation projects over a period of three years and meet three times a year in learning network sessions with the purpose of developing knowledge through active learning interaction between the different organizations.	Describe the learning network configuration used in a current active learning project in the medical technology industry and discuss the initial experience gained	Suecia

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
80	Case study of management innovation process of G Bank's Disaster Recovery Center,	Zhuang, E., Lei, S., & Su, J. (2010). Case study of management innovation process of G bank's disaster recovery center. Paper presented at the 2010 International Conference on Logistics Systems and Intelligent Management, ICLSIM 2010, , 3 1751-1755	2010	This is a case study focusing on innovation management process of G bank's Disaster Recovery Center, three typical phases including idea generation, plan improvement and decision, and plan implementation are divided to analyze their key steps and main factors, and role of the leadership in promoting the whole innovation management process is also analyzed. From these analyses, noteworthy results were obtained for how to manage successful innovation for those organizations with weak innovation capability. ©2010 IEEE.	Disaster recovery Idea generation Innovation capability Innovation management Management innovation	Manage successful innovation for those organizations with weak innovation capacity	This study focuses on the G bank Disaster Recovery Center innovation management process.	Analyze the entire innovation management process.	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
81	Towards individual innovation capability - The assessment of idea generating methods and creativity in a capstone design course,	Berglund, A., & Ritzén, S. (2009). Towards individual innovation capability - the assessment of idea generating methods and creativity in a capstone design course. Paper presented at the Proceedings of the ASME Design Engineering Technical Conference, , 8(PARTS A AND B) 459-466	2009	Innovation is per se based not only on the individual problem solving, but the process from new ideas to commercialization of new products. However, in a time with rapid technology shifts and frequently altered customer requirements, creativity and more precisely the lack of useful new ideas surfacing is viewed as problematic by companies. Ways of involving creativity has been to apply idea generating (IG) methods for identification of creativity sources. This paper consists of a combined theoretical and empirical approach which aims at studying existing tests and proposing suitable creative methods to be used in higher engineering education. The authors work with an extensive capstone design course in Integrated Product Development that emphasizes systematic and parallel approaches to product development. In contrast to traditional modes and styles of teaching that make few attempts to encourage students to pursue a variety of IG methods the capstone design course in integrated product development puts a large part of the responsibility on the students. In all cases IG and use of creativity methods is a natural ingredient. Thus, students' self-regulation and insights into how to work with methods and exercises is particularly interesting as this may have an affect on managing their creative skill. Overall possible improvements in students' creative potential transcend interesting notions on capability to innovate. Thus, this paper's purpose is to investigate whether creativity as an ingredient of a student's innovation capability is influenced by using IG methods. And whether the selections made by project groups are aligned to best utilize students' creative thinking. Copyright © 2009 by ASME.	Capability to innovate Capstone design course Creative skills Creative thinking Customer requirements Empirical approach Generating methods Innovation capability Integrated product development Large parts Natural ingredients Natural ingredients New product	Study the existing evidence and propose creative methods suitable for use in higher education in engineering.	This article consists of a combined theoretical and empirical approach that aims to study existing evidence and propose suitable creative methods to be used in higher education in engineering. The authors work with an extensive final design course in Integrated Product Development that emphasizes systematic and parallel approaches to product development.	Investigate whether creativity as an ingredient in a student's ability to innovate is influenced by the use of GI (Generación de ideas) methods..	Suecia

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
					Project groups				
					Technology shift				
82	Research on the collaborative innovation-oriented path of enhancing regional innovation capability,	Yi, W. -., & Yu, B. (2009). Research on the collaborative innovation-oriented path of enhancing regional innovation capability. Paper presented at the 2009 International Conference on Information Management, Innovation Management and Industrial Engineering, ICIII 2009, , 3 462-465	2009	Indigenous innovation model based on Individual enterprise influences and constraints the overall enhancement of regional indigenous innovation ability. In view of this ,on the basis of the comparison of the path of regional indigenous innovation capabilities, this article come up with the improvement path of regional innovation abilities on the basis of indigenous innovation alliance. This article not only starts a study for this path ,but also explores the promotion strategy. A growing number of formation and development of regional indigenous innovation alliance must boost successive improvement of regional innovation abilities. © 2009 IEEE.	Collaborative innovation	Improve regional innovation capacities through the indigenous innovation alliance	The study analyzes Chinese cities facing difficulties: resource depletion and the economic and social transformation, because the stability of these cities are the important issues in the development and harmony of China.	Promote the successive improvement of regional innovation capacities	China
					Improvement of regional innovation capability				
					Innovation capability				
					Model-based				
					Path selection				
					Promotion strategies				
					Regional innovation				

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
83	Measurement of the technical transitions' contribution rate to the independent innovation ability improvement of China's railway enterprises,	Yang, Y., Song, W., & Zhang, X. -. (2008). Measurement of the technical transitions' contribution rate to the independent innovation ability improvement of china's railway enterprises. Paper presented at the 2008 International Conference on Management Science and Engineering 15th Annual Conference Proceedings, ICMSE, 1502-1508	2008	The railway enterprises in China have improved their capability of independent innovation and have effectively offered the precondition of the six speed-ups through the unique technology transition model. Based on the analysis of the internal, external and opportunity driving factor which motivating the realization of the railway enterprises technology transitions in China, a model used to measure the contribution rate of every driving factor done to the capability improvement of the enterprises independent innovation is established. The results of this research shows that the improvement of the enterprise's independent innovation capability depends on the joint force after the optimization and coordination of the three factors, but the most optimization is attributed to the optimal value extent of the three driving factors. The above viewpoints are verified by the application example of the Xi'an rolling stock works. © 2008 IEEE.	Contribution rate Driving factors Measure model Technical transition Xi'an rolling stock works	Measure the contribution rate of each driving factor carried out to improve the independent innovation capacity of companies	The model envisaged for the measurement is based on the analysis of the internal, external and opportunity driving factors that motivate the realization of technological transitions of railway companies in China.	Enhance the independent innovation capacity of China's railway companies	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
84	Outsourcing manufacturing and its effect on engineering firm performance,	Bengtsson, L. (2008). Outsourcing manufacturing and its effect on engineering firm performance. International Journal of Technology Management, 44(3-4), 373-390	2008	Despite the proclaimed advantages and popularity of outsourcing, there are few and contradictory studies of the effects. The main purpose of this paper is to analyse how outsourcing manufacturing relates to performance and innovation at the plant level. A second purpose is to analyse how this outcome relates to investments in manufacturing capability. This paper is based on the results of a large-scale survey of outsourcing and manufacturing practices among a representative sample of Swedish engineering firms. The results show mainly no significant effects from outsourcing manufacturing on plant operating performance or innovation capability. This paper, however, reveals that the firms' investments in technological and organisational capabilities explain the improvements of performance at the plant level to a significantly higher extent than outsourcing does. This paper concludes with a suggestion to further analyse the potential of combined outsourcing and manufacturing strategies. Copyright © 2008 Inderscience Enterprises Ltd.	Effect Manufacturing capability Manufacturing practices Manufacturing strategy Operating performance Organisational capabilities Performance Representative sample	Analyze how manufacturing outsourcing relates to performance and innovation at the plant level.	This paper is based on the results of a large-scale survey of outsourcing and manufacturing practices among a representative sample of Swedish engineering companies.	Analyze how the results of the outsourcing analysis are related to investments in manufacturing capacity.	Suecia

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
85	Integrating the development of continuous improvement and innovation capabilities into engineering education,	Jørgensen, F., & Busk Kofoed, L. (2007). Integrating the development of continuous improvement and innovation capabilities into engineering education. European Journal of Engineering Education, 32(2), 181-191	2007	In this paper, a study is presented in which engineering students at a Danish university developed Continuous Improvement (CI) and innovation capabilities through action research and experiential learning methods. The paper begins with a brief overview of the literature on CI and innovation, followed by an account of how the students designed and implemented solutions to self-identified problems within their educational program using the principles of CI, and how these learning activities facilitated the development of basic innovation capabilities. The paper concludes with insights regarding how such an innovative design of teaching methods based on learning-by-doing may not only support the development of CI and innovation in engineering students, which is increasingly demanded by industry, but also represent a way in which to enhance sustainability and innovation of the education itself. © 2007, Copyright Taylor & Francis Group, LLC.	Action research Basic innovations Continuous improvements Educational program Experiential learning Innovation capability Innovative design Learning Activity	Develop Continuous Improvement (CI) and innovation capabilities through action research and experiential learning methods.	The study is developed by students who designed and implemented solutions to self-identified problems within their educational program using IC principles, and how these learning activities facilitated development.	Promote sustainability and innovation in education.	Dinamarca

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
86	Nuclear fuel innovation: A successful challenge,	Kocher, A., Brown, L., & Kreuter, D. (2004). Nuclear fuel innovation: A successful challenge. Paper presented at the Proceedings of the 2004 International Meeting on LWR Fuel Performance, 139-145	2004	In all industries, innovation is of vital importance and the nuclear fuel sector is also faced with this challenge. A hi-tech product like nuclear fuel, designed for on-line or future nuclear power plants, is characterized by long development time, limited degrees of freedom and highly specific customers. In this restricted and increasingly competitive environment, innovation has become a strategic priority. To increase the reliability, the safety and the economics of the operation of NPPs, the development of advanced nuclear fuel technologies is required. To successfully develop the next generation of its nuclear fuel products, Framatome ANP has implemented an efficient organization based on the mobilization of all the innovation capabilities. This paper aims to detail the process and the dynamic launched to boost innovation and the results obtained. The first step is to identify customer needs and determine the features expected for the future fuel products and services: thanks to a large survey involving not only the customers, but also the whole fuel business, long-term innovation areas have been defined. From these areas, specific measures for galvanizing innovation and gathering new ideas were launched, such as the	Innovation management Innovations Nuclear fuel technologies	Identify customer needs and determine the expected characteristics for future fuel products and services	The study highlights that to successfully develop the next generation of its nuclear fuel products, Framatome ANP has implemented an efficient organization based on the mobilization of all innovation capabilities.	Detail the process and dynamics launched to drive innovation in nuclear fuel production, designed for on-line or future nuclear power plants	Francia
87	Pathways for the improvement of indigenous technological innovation capability in China,	Chen, J., & Xu, Q. (1997). Pathways for the improvement of indigenous technological innovation capability in china. Paper presented at the Innovation in Technology Management - the Key to Global Leadership, PICMET 1997: Portland International Conference on Management and Technology, 179-182	1997	For any developing country, it is important to accomplish the process from technology importation to assimilation and self-reliant innovation, and it must be aided by the capability-building of indigenous technological innovation. Thus the management of technology in China must include such a strategic issue. This paper, which is based on case studies of Chinese firms, describes the pathways of improvement of indigenous technology innovation capability in the perspective of technology strategy, organizational change and capital support. © 1997 PICMET.	Capability building Management of technology	Describe the ways of improving indigenous technological innovation capacity from the perspective of technological strategy, organizational change and capital support.	This document, based on case studies of Chinese companies, describes the ways to improve indigenous technological innovation capacity from the perspective of technological strategy, organizational change and capital support.	Develop capacities for indigenous technological innovation.	China

Ítem	Title	Apa reference	Year	Abstract	Keywords	Objective	Descripción	Propósito	Country
					Organizational change				
					Strategic issues				
					Technological innovation				
					Technological innovation capability				
					Technology innovation				
					Technology strategies				