UNIVERSITAT POLITÈCNICA DE VALÈNCIA

MEASURING THE SUCCESS OF NEW BUSINESS MODELS WITH AN ENVIRONMENTAL PERSPECTIVE: FROM THE CIRCULAR ECONOMY TO SERVITISATION.

TESIS DOCTORAL

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Resumen

La sostenibilidad es un concepto que se está haciendo extensible a cada vez más ámbitos de nuestra sociedad, estando muy presente en la esfera empresarial a través de la denominada sostenibilidad corporativa. Ya que cada vez son más las empresas que deciden aplicar prácticas sostenibles en diferentes áreas de su organización, o bien para hacer frente a las exigencias regulatorias o, bien, para satisfacer a las presiones y demandas de sus clientes.

Sin embargo, la capacidad de determinar qué prácticas sostenibles aplicar para poder generar el mayor rendimiento para las compañías todavía se antoja complicado. Esto es debido a que intervienen diferentes variables, como, por ejemplo, el tipo de sector en el que operen las organizaciones y el nivel de desarrollo de prácticas sostenibles aplicadas por los competidores.

Es por ello, que, el propósito de esta tesis consiste en el desarrollo de las primeras fases de una teoría que permita a los responsables de las compañías conocer qué tipo de prácticas sostenibles aplicar en función de su organización interna y su posición competitiva.

Para ello, inicialmente de desarrolló un análisis de la literatura para identificar las metodologías creadas para ayudar a las organizaciones a integrar la sostenibilidad en su modelo de negocio. Además, se valoró el nivel de aceptación y de uso de dichas metodologías por parte de consultores y directivos de compañías.

Posteriormente, se llevó a cabo un detallado estudio del estado del arte sobre la sostenibilidad corporativa que identificó cinco líneas de investigación que se están produciendo actualmente. Estas cinco líneas fueron clasificadas en cinco conceptos que han permitido conocer diferentes tipos de prácticas sostenibles aplicadas por las empresas y, además, contribuyó al desarrollo del protocolo de estudio de casos.

El primer concepto es la ‘sostenibilidad holística’, el cual engloba toda la literatura relativa a cómo la sostenibilidad se debe gestionar desde un punto de vista global incorporándola en la estrategia de la organización. El segundo concepto se denomina ‘metodologías sostenibles’, concepto que trata de las diferentes metodologías o modelos desarrollados por académicos para ayudar a los responsables de las compañías a determinar qué prácticas ambientales aplicar. El tercer concepto trata de los ‘modelos de negocio sostenibles’, es decir, las características de aquellas compañías que deciden situar la sostenibilidad en el centro de su negocio y de su propuesta de valor. El cuarto concepto, denominado ‘operaciones sostenibles’ recoge todas las actividades que se circunscriben a un área concreta de la compañía para reducir el impacto ambiental (p.e. aplicación de tecnología que permita el consumo de energía renovable). Y, finalmente, el quinto concepto, titulado ‘innovación orientada a la sostenibilidad’, este último

concepto abarca el campo de análisis sobre cómo la interacción entre diferentes prácticas en una misma empresa mejoran su rendimiento.

El protocolo de estudio de casos se empleó para analizar a una serie de empresas conocidas por la aplicación de prácticas sostenibles, de manera que, usando dicho protocolo se pudo determinar qué tipo de prácticas sostenibles implantadas por estas empresas han sido capaces de generarles un incremento de su rendimiento.

Los resultados obtenidos permiten clasificar a las compañías en cinco fases en función de nivel de integración de la sostenibilidad que han desarrollado. Estas fases pasan por el aprovechamiento del cumplimiento legal como una oportunidad, pasando por el desarrollo de una cadena de valor eco-innovadora hasta convertirse en modelos de negocio sostenibles.

Se detectan varios factores que facilitan que las compañías avancen hacia mayores niveles de integración de la sostenibilidad. Entre ellos, destaca la necesidad de contar con el impulso por parte de la dirección de la compañía. Además, las organizaciones que aplican un mayor número de prácticas sostenibles son aquellas que la sostenibilidad no genera valor por sí sola en forma de silos, sino que existe una coordinación entre las diferentes actividades de la compañía que permite que el valor generado por la aplicación de prácticas sostenibles fluya a través de los diferentes departamentos.

Es por ello que, para facilitar que la sostenibilidad se convierta en un factor transversal a toda la compañía se requiere de un sistema de gestión ambiental (SGA). De manera que, este tipo de sistemas protocoliza la sostenibilidad incorporándola en los diferentes procesos de toma de decisiones, desde la contratación de proveedores hasta el proceso de valoración de los candidatos presentes en los procesos de reclutamiento.

Finalmente, esta tesis ofrece una serie de prácticas sostenibles que pueden ser desarrolladas por las compañías en función de la fase de integración de la sostenibilidad en la que se encuentren y en la estrategia que siga la compañía.

Resum

La sostenibilitat és un concepte que s'està estenent cada vegada a més àmbits de la nostra societat, estant molt present en l'esfera empresarial mitjançant de la denominada sostenibilitat corporativa. Ja que cada cop son més les empreses que decideixen aplicar pràctiques sostenibles en diferents àrees de la organització, o bé per fer front a les exigències reguladores o, bé, per satisfer les pressions i demandes dels seus clients.

No obstant, la capacitat de determinar quines pràctiques sostenibles s'han d'aplicar per poder generar el major rendiment per a les companyies encara és una qüestió complicada. Això es degut a que intervenen diferents variables, com, per exemple, el tipus de sector en el que operen les organitzacions i el nivell de desenvolupament de pràctiques sostenibles aplicades pels competidors.

Per tant, el propòsit d'esta tesi consisteix en el desenvolupament de les primeres fases d'una teoria que puga permetre als responsables de les companyies conèixer quin tipus de pràctiques sostenibles aplicar en funció de la seua organització interna i la seua posició competitiva.

Per aconseguir-ho, inicialment es va desenvolupar un anàlisi de la literatura per identificar les metodologies creades per ajudar a les organitzacions a integrar la sostenibilitat en el seu model de negoci. A més, es va valorar el nivell d'acceptació i d'ús d'estes metodologies per part de consultors i directius de companyies.

Posteriorment, es va portar a terme un detallat estudi de l'art sobre la sostenibilitat corporativa que va identificar zinc línies de recerca que s'estan produint en l'actualitat. Estes zinc línies van ser classificades en zinc conceptes que han permès conèixer diferents tipus de pràctiques sostenibles aplicades per les empreses i, a més, van contribuir al desenvolupament del protocol d'estudi de casos.

El primer concepte és la 'sostenibilitat holística', el qual engloba tota la literatura relativa a com la sostenibilitat s'ha de gestionar des d'un punt de vista global incorporant-la en la estratègia de la organització. El segon concepte es denomina 'metodologies sostenibles', concepte que tracta de les diferents metodologies o models desenvolupats per acadèmics per ajudar als responsables de les companyies a determinar quines pràctiques ambientals aplicar. El tercer concepte tracta dels 'models de negoci sostenibles', és a dir, les característiques d'aquelles companyies que decideixen situar la sostenibilitat en el centre del seu negoci i de la seua proposta de valor. El quart concepte, denominat, 'operacions sostenibles' recull totes les activitats que es circumscriuen a un àrea concreta de la companyia per reduir l'impacte ambiental (p.e. l'aplicació de tecnologia que permet el consum d'energia renovable). I, finalment, el quint concepte, titulat 'innovació

orientada a la sostenibilitat', este últim concepte abasta el camp d'anàlisi sobre com la interacció entre diferents pràctiques en una mateixa empresa milloren el seu rendiment.

El protocol d'estudi de casos es va emprar per analitzar una sèrie d'empreses conegudes per l'aplicació de pràctiques sostenibles, de manera que, usant el protocol es va determinar quin tipus de pràctiques sostenibles implantades per estes empreses han sigut capaces de fer que generen un increment del seu rendiment.

El resultats obtinguts permeten classificar a les companyies en zinc fases en funció del nivell d'integració de la sostenibilitat que han desenvolupat. Estes fases passen per l'aprofitament del compliment legal com una oportunitat, passant pel desenvolupament d'una cadena de valor eco-innovadora fins convertir-se en models de negoci sostenibles.

S'han detectat una sèrie de factors que faciliten que les companyies avancen cap a majors nivells d'integració de la sostenibilitat. Entre ells, destaca la necessitat de contar amb l'impuls per part de la direcció de la companyia. A més, les organitzacions que apliquen un major nombre de pràctiques sostenibles son aquelles que la sostenibilitat no genera valor per sí sola en forma de sitges, sinó que existeix una coordinació entre les diferents activitats de la companyia que permet que el valor generat per l'aplicació de pràctiques sostenibles flueixi a través dels diferents departaments.

És per això que, per facilitar que la sostenibilitat es converteixi en un factor transversal a tota la companyia, es requereix d'un sistema de gestió ambiental (SGA). De manera que, este tipus de sistemes protocol·litzen la sostenibilitat incorporant-la en els diferents processos de presa de decisions, des de la contractació de proveïdors fins el procés de valoració dels candidats presents en els processos de reclutament.

Finalment, esta tesi ofereix una sèries de pràctiques sostenibles que poden ser desenvolupades per les companyies en funció de la fase d'integració de la sostenibilitat en la que es troben i en la estratègia que segueix la companyia.

Abstract

Sustainability is a concept that is being extended to more and more areas of our society, being very present in the business sphere through the so-called corporate sustainability. In fact, more companies decide to apply sustainable practices in different areas of their organization, either to face regulatory requirements or, well, to satisfy the pressures and demands of their customers.

However, the ability to determine which sustainable practices to apply in order to generate the best returns for companies is still challenging. This is due to the fact that different variables intervene, such as, for example, the type of sector in which organizations operate and the level of development of sustainable practices applied by competitors.

That is why, the purpose of this thesis consists in the development of the first phases of a theory that allows company managers to know what type of sustainable practices to apply based on their internal organization and their competitive position.

To do this, an analysis of the literature was initially developed to identify the methodologies that have been created to help organizations to integrate sustainability into their business model. In addition, the level of acceptance and use of said methodologies by consultants and company executives was analysed.

Subsequently, a detailed study of the state of the art on corporate sustainability was carried out, which identified five lines of research that are currently being deployed. These five lines were classified into five concepts that have allowed us to know different types of sustainable practices applied by companies. In addition, these concepts has contributed to the development of the case study protocol.

The first concept is ‘holistic sustainability’, which encompasses all the literature on how sustainability should be managed from a global point of view, incorporating it into the organization's strategy. The second concept is called ‘sustainable methodologies’, a concept that deals with the different methodologies or models developed by academics to help company managers determine which environmental practices to apply. The third concept deals with ‘sustainable business models’, that is, the characteristics of those companies that decide to place sustainability at the center of their business and their value proposition. The fourth concept, called ‘sustainable operations’, includes all the activities that are limited to a specific area of the company to reduce the environmental impact (e.g. application of technology that allows the consumption of renewable energy). And, finally, the fifth concept, entitled ‘innovation oriented to sustainability’, covers the field of analysis on how the interaction between different practices in the same company improves its performance.

The case study protocol was used to analyze a series of companies known for the application of sustainable practices. Using this protocol, it was possible to determine what type of sustainable practices implemented by these companies have been able to generate an increase in their performance.

The results obtained allow companies to be classified into five phases according to the level of integration of sustainability they have developed. These phases go through the use of legal compliance as an opportunity, through the development of an eco-innovative value chain to become sustainable business models.

Several factors are detected that make it easier for companies to move towards higher levels of sustainability integration. Among them, it stands out the need to count on the impulse on the part of the management of the company. In addition, the organizations that apply a greater number of sustainable practices are those that sustainability does not generate value by itself in the form of silos, but there is a coordination between the different activities of the company that allows the value generated by the application of sustainable practices flow through the different departments.

In order to make sustainability a cross-cutting factor throughout the company, an environmental management system (EMS) is required. Thus, this type of system protocolizes sustainability by incorporating it into the different decision-making processes, from the hiring of suppliers to the recruitment processes.

Finally, this thesis offers a series of sustainable practices that can be developed by companies depending on the phase of integration of sustainability in which they are, and on the strategy followed by the company.

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CAPÍTULO 1:

INTRODUCCIÓN

1.1 INTRODUCCIÓN

Durante los últimos años, numerosas compañías están adoptando e implementando prácticas sostenibles en sus modelos de negocio y cadenas de valor como respuesta ante los nuevos retos a los que se enfrentan, entre los que destacan las expectativas de los consumidores, la presión por parte de inversores y la presión regulatoria (Ioannis & Serafeim, 2019).

Este tipo de acciones quedan enmarcadas en la denominada "sostenibilidad corporativa". Esta se basa en el concepto de desarrollo sostenible, que se define como "el desarrollo que es capaz de satisfacer las necesidades actuales sin comprometer los recursos y posibilidades de las futuras generaciones" (WCED, 1987). Este criterio se materializó en el ámbito empresarial a través de conceptos como la triple línea de resultados de Elkington (1998) y, posteriormente, diversos autores establecieron la relación entre la estrategia empresarial o "management" y la sostenibilidad corporativa (Dyllick and Hockerts, 2002; Salzmann et al., 2005).

Estas prácticas están siendo adoptadas tanto a nivel operativo como a nivel estratégico por parte de las compañías a través de los criterios ambientales, sociales y de gobernanza (ESG) (Eccles, Ioannou and Serafeim, 2014). Sin embargo, las organizaciones todavía se enfrentan a problemas a la hora de determinar qué prácticas sostenibles adoptar o de qué manera integrar la sostenibilidad en la estrategia corporativa (Galbreath, 2009; Hahn, 2013), debido a que este tipo de decisiones deben tomarse teniendo en cuenta numerosas variables tales como el sector en el que compite la empresa, las demandas de los stakeholders, los procesos y estructuras internas, etc., provoca que se incremente la complejidad (Baumgartner, 2014). De hecho, el desarrollo de una estrategia basada en la sostenibilidad corporativa requiere de un diseño *ad hoc* que incluya las circunstancias asociadas a cada organización (Engert & Baumgartner, 2016).

Esta adopción de prácticas sostenibles por parte de los responsables de las compañías ha dado lugar a que numerosos académicos contribuyan al progreso en el campo de investigación relacionado con la sostenibilidad corporativa. En concreto, existe un amplio debate sobre el papel que juega la sostenibilidad desde el punto de vista de la estrategia y de la operativa de las compañías y las implicaciones financieras que conlleva la adopción de este tipo de prácticas.

Existe extensa literatura académica e incluso teorías en el campo del "management" que permiten ayudar a los directivos a mejorar su proceso de toma de decisiones en función de variables como; la tipología de mercado en el que compite la compañía, las economías de escala o las características de los competidores. De hecho, no existen diferencias significativas entre los procesos de desarrollo de estrategias desde el campo del "management" y el campo de la sostenibilidad corporativa (van Marrewijk & Werre, 2003; Baumgartner & Ebner, 2010; Lee, 2011; Engert, et al., 2016).

Porter (1996) expuso la diferencia entre eficiencia operacional y estrategia. La eficiencia operativa enmarca la realización de las actividades mejor que los competidores, mientras que la estrategia consiste en ser diferente. Si analizamos el campo de la sostenibilidad corporativa desde la óptica del "management" observamos que la implantación de prácticas sostenibles van destinadas o a mejorar en el ámbito de la eficiencia operativa (Chen et al., 2012), como por ejemplo, mejorar la eficiencia en la gestión de aguas residuales para reducir costes, o bien, a favorecer una diferenciación estratégica respecto a los competidores, como por ejemplo, lanzar al mercado productos eco-innovadores que penetren en nuevos nichos (Albort-Morant et al., 2017*;* Ioannis & Serafeim, 2019).

Por una parte, la implantación de prácticas sostenibles a nivel operativo se ha erigido como una manera de reducir costes y generar valor por parte de las compañías. Por otra parte, el desarrollo de una estrategia corporativa mediante la cual se integre la sostenibilidad desde un punto de vista transversal a las diferentes áreas de la organización es capaz de generar nuevas ventajas competitivas para las compañías (Munodawafa & Johl, 2019).

Según Stead y Stead (1996), la sostenibilidad corporativa consiste en el desarrollo de una estrategia por parte de los directivos enfocada al desarrollo de ventajas competitivas que permitan a las organizaciones transformar los impactos sociales y ambientales en oportunidades de negocio minimizando los riesgos y generando mayores ingresos. Para ello, Stead y Stead (2008) le otorgan a esta estrategia una dimensión que va más allá del ámbito económico incorporando las variables ambientales y sociales para el desarrollo de estrategias a largo plazo.

Tanto es así, que los inversores prefieren invertir en aquellas organizaciones con un elevado desempeño de los criterios ESG (Serafeim, 2020). Este ámbito ha visto durante los últimos años un significativo crecimiento en el número de estándares y métricas que pretenden medir el desempeño ambiental y social de las organizaciones. Esto incluso provoca confusión entre los inversores y analistas que desean analizar a las compañías debido a la poca homogeneidad de los datos (Eccles, et al., 2020).

Manteniendo la relación entre "management" y sostenibilidad corporativa, esta tesis está construida en torno a la construcción de teorías en Ciencias Sociales. Este tipo de teorías son comunes en el campo de la gestión de empresas, por lo que se pretende emplear esta misma metodología en el campo de la sostenibilidad corporativa. Para ello se ha desarrollado la metodología de construcción de teorías en Ciencias Sociales que se expone posteriormente.

Respecto a la situación en que se encuentra el campo de la sostenibilidad desde el punto de vista académico, actualmente se aprecia cómo los académicos difieren en las descripciones e interpretaciones de los diferentes fenómenos que analizan (p.e. tipologías de modelos de negocios sostenibles que presentan tasas de éxito empresarial). De manera que, a medida que la ciencia

avanza tiende a reducirse esta divergencia hasta desaparecer (Kuhn, 1962). Es por ello que se puede considerar que actualmente nos encontramos ante la construcción de un paradigma sobre la relación entre la aplicación de prácticas sostenibles y su mejora en el rendimiento. Para que una teoría pueda ser aceptada como paradigma debe ser capaz de responder ante el mayor número de relaciones causa-efecto relacionadas con el fenómeno en cuestión (Carlile & Christensen, 2009).

Por tanto, a través de esta tesis se ofrece una revisión de la literatura académica relacionada con la sostenibilidad corporativa. Posteriormente, se inicia el desarrollo de una teoría, junto con un estudio de casos, que pretende ayudar a los responsables de empresas y académicos conocer qué prácticas sostenibles implantar en sus organizaciones.

1.2 JUSTIFICACIÓN DE LA TESIS

La sostenibilidad se ha convertido en un criterio que debe ser incorporado por los directivos durante los procesos de planificación estratégica para que las compañías puedan incrementar su rendimiento económico (Bossle et al., 2016). Por tanto, la incorporación de las prácticas sostenibles en los planes estratégicos otorga a la sostenibilidad una visión a largo plazo y que debe influir en las diferentes políticas de la compañía, desde la política de desarrollo de I+D hasta la política de compras (Tamayo-Orbegozo et al., 2017).

La implantación de prácticas sostenibles suele iniciarse en áreas cuyo alcance está muy circunscrito a un departamento o proceso concreto (p.e. aplicación de procesos de reducción de aguas residuales), posteriormente suele producirse un desarrollo de nuevas prácticas en otras áreas y, paulatinamente, alcanzar una política de sostenibilidad transversal (Wagner & Llerena, 2011). Sin embargo, esta implantación a mayor escala requiere de recursos y capacidades críticas como, por ejemplo, personal cualificado, capacidad de aprendizaje y el desarrollo de una estructura organizativa que incorpore a la sostenibilidad en el propio proceso de toma de decisiones de la organización (Díaz-García et al., 2015). Es decir, el proceso de integración de la sostenibilidad en las organizaciones no consiste solo en un mero proceso de restructuración organizativa, sino que requiere de las denominadas “soft skills” como son la capacidad de liderar un proceso de gestión del cambio y transformación cultural (Paraschiv et al., 2012). Además, el principal factor de éxito para la adopción de prácticas y estrategias sostenibles en una compañía es la concienciación y promoción por parte de los directivos de la compañía (Qi et al., 2010). Diversos autores (Albort-Morant et al., 2017) defienden que las prácticas sostenibles a nivel operativo suelen ir dirigidas a la reducción de costes e impuestos o cánones, mientras que la adopción de prácticas sostenibles desde un punto de vista estratégico, permite incrementar sus cuotas de mercado, principalmente a través del lanzamiento de nuevos productos eco-innovadores o incorporación del atributo de sostenibilidad en los productos existentes. Además, el desarrollo de

este tipo de prácticas es capaz de incrementar el valor del producto, mejorar la imagen corporativa y, por tanto, el rendimiento de las compañías (Chen et al., 2012).

Sin embargo, aunque las razones por las que las compañías adoptan prácticas sostenibles vienen originadas por elementos externos (presión de los stakeholders o del regulador), el proceso de adopción de estas prácticas se divide entre un proceso proactivo o reactivo (Chen et al., 2012).

Los responsables de las compañías que adoptan prácticas sostenibles desde un punto de vista proactivo lo hacen con el objetivo de mejorar su propuesta de valor frente a la de sus competidores, es decir, entienden la sostenibilidad como una variable de la estrategia corporativa para poder alcanzar una mayor ventaja competitiva. Respecto a la adopción de este tipo de prácticas de manera reactiva, se debe principalmente a tres razones. La creación de normativa ambiental o social que obliga a las compañías a llevar a cabo una determinada acción (p.e. publicación del Estado de Información No Financiera en base a la Ley 11/2018). La segunda razón es por la demanda de los clientes de aplicar determinadas acciones o desarrollar nuevos productos. Finalmente, la tercera razón se debe a la tendencia por parte de los competidores a adoptar ciertas prácticas y evitar una pérdida de cuota de mercado (Sumakaris & Korsakiene, 2021). Sobre este fenómeno, Ioannou y Serafeim (2019) defienden que las prácticas ESG en industrias del mismo sector al cabo de ocho años tienden a converger, es decir, las firmas aplican las mismas prácticas reduciendo su diferenciación y, por tanto, su ventaja competitiva.

Una vez demostrado que la sostenibilidad mejora significativamente la competitividad de las empresas, tanto de las empresas ya existentes como de las de reciente creación (Klettner et al., 2014), a continuación es necesario determinar qué elementos intervienen en el proceso de adopción de la sostenibilidad para que ésta genere los efectos deseados (reducción de costes e incremento de la ventaja competitiva). Actualmente, desarrollar los procesos de integración de la sostenibilidad en las organizaciones se presenta como el mayor reto para los responsables de las organizaciones (Fülöp & Hérnándi, 2014; Baumgartner, 2014; Epstein & Roy, 2001), lo que permite identificar un campo de investigación orientado a como emplear los preceptos del "management" para adoptar prácticas sostenibles, en concreto, en su formulación, implementación y ejecución (Engert, et al., 2016).

Previamente se ha expuesto que, para una integración de la sostenibilidad exitosa, es necesario de un liderazgo visionario y de una estructura organizativa. Siguiendo con el paralelismo con el campo del "management", esta tesis pretende ofrecer tanto en el ámbito académico como en el ámbito empresarial, una visión que pueda ayudar a las organizaciones a llevar a cabo esta integración con las mejores posibilidades de éxito.

El desarrollo de una nueva teoría que permita predecir los resultados de un determinado fenómeno, en este caso, predecir el impacto que tendrá en el rendimiento de una compañía la

implantación de una determinada práctica sostenible, requiere del estudio de las situaciones y circunstancias que envuelven cada fenómeno (Carlile & Christensen, 2006). Dicho estudio se ha realizado mediante el análisis del estado del arte y a través de casos reales y ofrece una potencial línea de investigación que alimente dicha teoría con nuevos casos para incrementar su capacidad de predecir los resultados que se obtendrían al aplicar una determinada práctica ambiental.

1.3 OBJETIVOS Y ESTRUCTURA DE LA INVESTIGACIÓN

Esta tesis tiene como principal objetivo ayudar al desarrollo del campo de investigación de la sostenibilidad corporativa. Para ello, tiene como objetivo principal el desarrollo de una teoría que permita determinar qué tipo de prácticas sostenibles deben implementarse en las compañías para obtener el mayor rendimiento posible. De manera que, esta teoría ha sido titulada 'Teoría de la Sostenibilidad Corporativa'.

En concreto, el desarrollo de dicha teoría persigue alcanzar los siguientes objetivos:

- Establecer una estructura y una clasificación sobre los diferentes ámbitos de estudio que se han ido desarrollando sobre la sostenibilidad corporativa.
- Ofrecer una metodología de trabajo que permita a los investigadores, directivos y consultores, analizar el grado de integración de la sostenibilidad en su modelo de negocio. De manera que, una vez realizado el análisis, se identifiquen las acciones que deberían ser implantadas.

La tesis está organizada como compendio de artículos, de manera que la estructura de los capítulos que incluyen los artículos se corresponde con el formato exigido por las revistas para su revisión y posterior publicación (resumen, introducción, objetivos, metodología, resultados, discusión, conclusiones y bibliografía).

En el Capítulo 1 se realiza la introducción y justificación de la tesis y la presentación de los objetivos del estudio. Posteriormente se justifican las metodologías utilizadas.

En el Capítulo 2 se incluye el artículo: "Reshaping business models with an environmental perspective" Este artículo ha sido publicado como capítulo en el libro *Corporate Social Responsibility in the Manufacturing and Services Sectors* editado por la prestigiosa editorial Springer dentro de la serie de publicaciones denominada EcoProduction en el año 2018.

En el Capítulo 3 se incluye el artículo: "Building a Theoretical Framework for Corporate Sustainability?" Este artículo ha sido publicado en Volumen 13 Número 1 de la revista Sustainability – Special Issue Environmental Good Practices and Labour Productivity in the Hotel Industry. La citada revista está indexada en numerosas bases de datos, destacando las siguientes: Scopus, SCIE and SSCI (Web of Science), GEOBASE, Inspec, AGRIS, RePEc y CAPlus /

SciFinder. En junio de 2021 el Journal Citations Reports determinó que su índice de impacto en es de 3.251 (anexo).

El capítulo 4 presenta el artículo: "Case study protocol for the analysis of sustainable business models". Este artículo ha sido publicado como capítulo en el libro "Culture and Tourism in a Smart, Globalized and Sustainable World", el cual fue editado a raíz del Congreso Internacional IACUDIT 2020, por la prestigiosa editorial Springer en el año 2021.

En el capítulo 5 se presenta el artículo "How do firms respond to sustainable pressures? moving towards a sustainable practices' adoption from a multiple real case study". Este artículo está en actualmente en revisión en la revista Corporate Social Responsibility and Environmental Management, su índice de impacto en la base de datos JCR (SSCI) es 8.741 en el año 2020 (anexo).

Finalmente, en el Capítulo 6 se presentan las conclusiones e implicaciones de la tesis doctoral, las limitaciones del estudio realizado y se definen las futuras líneas de investigación.

1.4 METODOLOGÍA

Debido a que esta tesis se ha realizado mediante el compendio de artículos, cada uno de los artículos corresponde a un capítulo de la tesis. En concreto, está formada por dos artículos publicados en revistas internacionales indexadas y dos capítulos de libro publicados a través de la editorial Springer (en diferentes ediciones). Tanto para los artículos como para los capítulos, durante la revisión se ha aplicado una evaluación externa.

Cada uno de los capítulos aborda las diferentes fases que se han diseñado durante este proceso de investigación, desde la fase de revisión de literatura hasta el análisis cualitativo en empresas. Por lo que la metodología desarrollada en cada artículo y capítulo se adapta al propósito de cada uno de ellos. A continuación, se explica, brevemente, cada una de las metodologías utilizadas. La justificación, adecuación y detalle de cada uno de los métodos se presenta en los artículos correspondientes.

1.4.1 Revisión bibliográfica

La revisión bibliográfica consiste en una recopilación sistemática de la información publicada relacionada con el tema de la investigación. En concreto, se ha empleado el proceso de 'snowballing process' (Wohlin, 2014).

Este proceso consiste en diseñar una estrategia de búsqueda mediante la cual se identifican una serie de artículos, publicaciones procedentes de conferencias e incluso literatura gris (p.e.

publicaciones de compañías privadas, fundaciones, etc.) para valorar su inclusión y exclusión para el posterior proceso de análisis.

Para ello, se deben establecer una serie de palabras clave de búsqueda las cuales se introducen en las plataformas de referencias bibliográficas. En este caso, las palabras más empleadas han sido 'sustainable business models', 'corporate sustainability', 'theory building process' y 'sustainable methodologies'. Las plataformas empleadas han sido 'Web of Science' y 'Scopus'.

Una vez extraídos los artículos, capítulos y diferentes tipos de publicaciones, el proceso de 'snowballing' consiste en analizar el título y resumen de cada artículo para valorar su inclusión en el proceso de investigación. Además, otros factores que se tiene en cuenta es el medio en el que se ha publicado y si los autores tienen una contrastada experiencia en el ámbito de estudio. Posteriormente, se determina si algunos de los artículos que aparecen citados en el material incluido previamente cuentan con las características necesarias para ser incluidos. Así pues, tanto durante el proceso se deben incluir y excluir los artículos que cumplan con los requisitos. De manera que esta metodología se rige por un proceso iterativo en el que se repiten estas búsquedas hasta que no se encuentran nuevos artículos de la materia.

1.4.2 Estudio de casos

El estudio de casos es una metodología de análisis cualitativo altamente extendida en el campo de las ciencias sociales, en concreto, en el ámbito del 'management' (Yin, 2003). A la hora de realizar un estudio de casos, existe la posibilidad de optar por el envío de encuestas a través de correo o cualquier otra forma para que las personas responsables de cada empresa las contesten y envíen la respuesta posteriormente. Sin embargo, este tipo de encuestas suelen ser contestados en un bajo porcentaje. Es por eso que, en este caso, se decidió optar por la realización de entrevistas personales con las personas responsables del ámbito de la sostenibilidad de cada una de las empresas analizadas.

Para las entrevistas se preparó un cuestionario (reproducido en el capítulo 4) y, previamente, se analizaron las empresas con información pública disponible, en base al protocolo de estudio, que también se muestra en el capítulo 4, con el fin de extraer la información más detallada y concisa de las empresas analizadas durante la entrevista. La información pública que se analizaba servía para entender el modelo de negocio y cadena de valor de la organización, los productos eco-innovadores que lanzaba al mercado y su relación con los stakeholders.

Además, las entrevistas fueron grabadas (previo permiso explícito del entrevistado) y, toda información relevante proporcionada por el entrevistado, aunque excediese el ámbito de la

pregunta, era anotada por el investigador. Gracias a esto, es posible reducir el número de casos y, además, permite una mayor profundidad y veracidad de las respuestas.

Se llevaron a cabo cuatro estudios de caso de empresas que presentaban un alto nivel de integración de la sostenibilidad en su modelo de negocio. Para poder obtener un resultado que proporcionase una imagen global y no solo circunscrita a un determinado sector, se eligieron empresas de sectores y con estrategias de mercado (estrategia de diferenciación o costes) diferentes entre sí.

Las compañías analizadas fueron:

- Ecoalf (Madrid). Sector textil.
- Consum (Silla, Valencia). Sector de distribución y venta de comida y alimentación al por menor.
- Naranjas Torres (Almenara, Castellón). Sector agroalimentario, cultivo y comercialización de frutas.
- GESREMAN (Madridejos, Toledo). Sector de gestión de residuos.

Una vez extraídos los datos, tantos los procedentes de fuentes públicas como de las entrevistas, se analizaron los datos a través del empleo de la técnica de 'content analysis' (Krippendorff, 2004).

Mediante este proceso, toda la información extraída se debe clasificar en códigos que expresen una unidad de análisis de un tema concreto (p.e. 'la empresa cuenta con un sistema de gestión ambiental'). De manera que se sigue un proceso en el que se revisa la información de manera iterativa hasta que todos los códigos han sido generados.

Posteriormente, esos códigos se agrupan en categorías. Estas categorías se consideran unidades de análisis independientes entre ellas con suficiente entidad como para tener un significado diferente respecto a las demás. Un ejemplo de categoría es 'relación entre sostenibilidad y propósito de marca'. En este estudio las categorías generadas llegan a englobar hasta 14 códigos.

Tras la codificación, se lleva a cabo un proceso en el que se establecen las relaciones entre cada una de las categorías. Para ello, se usa una técnica de codificación axial (Strauss, 1987). Finalmente, los resultados obtenidos se comparan con la literatura académica para determinar si existen coincidencias con los patrones observados.

1.4.3 Construcción de Teoría en Ciencias Sociales

Para el desarrollo de la Teoría de la Sostenibilidad Corporativa, la cual permita a los responsables de las organizaciones conocer qué prácticas sostenibles aplicar en función de las circunstancias

en las que se encuentre su compañía para poder conseguir el mayor rendimiento posible, ha sido necesario realizar un estudio sobre el proceso de construcción de teorías en Ciencias Sociales.

Para ello, la presente tesis se basó en las metodologías que Carlile y Christensen (2009) desarrollaron. Estos autores defienden que el proceso de construcción de teorías se compone de dos fases, una fase descriptiva en la que se analiza el fenómeno objeto de estudio, se categorizan los atributos observados y se establecen relaciones, y una fase prescriptiva, en la que analizando las circunstancias en las que encuentre envuelto en fenómeno, se podrá predecir el resultado. Es decir, en la fase prescriptiva los investigadores son capaces de determinar qué resultado se obtendrá a la hora de aplicar una determinada acción teniendo en cuenta las circunstancias en que se encuentran ya que durante la fase descriptiva se han establecido las relaciones causa-efecto.

Sin embargo, el proceso de desarrollo de teorías cuenta con el componente adicional de identificación de anomalías. En ocasiones, durante la fase descriptiva se determina que una acción conllevará a un resultado concreto y, sin embargo, este resultado no ocurre. Esto debe ser tratado por el investigador como una anomalía, lo que conlleva un proceso de investigación iterativo que determine la razón por la que dicha anomalía ha ocurrido. Si bien los investigadores suelen temer a las anomalías o incluso defienden su inexistencia en sus teorías, las anomalías son una buena oportunidad que permite mejorar la teoría y permitir su extensión hacia un alcance más amplio.

Mediante esta tesis se ha desarrollado la fase descriptiva de la Teoría de la Sostenibilidad Corporativa. Para ello, se han llevado a cabo los siguientes procesos:

- Observación a través del estudio de la literatura académica y del estudio de casos.
- Categorización de la información extraída con el fin de simplificar, organizar y esclarecer las relaciones entre las prácticas ambientales aplicadas y las mejoras de rendimiento.
- Asociación y correlación entre los atributos y los resultados obtenidos dando lugar a modelos. En este caso, modelos de estudio para determinar qué prácticas deben aplicar las compañías en función de la fase en la que se encuentren.

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CAPÍTULO 2:

RESHAPING BUSINESS MODELS WITH AN ENVIRONMENTAL PERSPECTIVE

Reshaping Business Models with an Environmental Perspective

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ABSTRACT

This chapter aims to compare the most common sustainable business models with the methodologies that have been designed in order for companies to embrace sustainability.

The methodology deployed has been based on a state of art of the scientific literature about environmental methodologies and the analysis of successful sustainable business models.

The results show that those methodologies are useful for improving specific areas or business units from organizations, but they don't offer a holistic point of view for embedding sustainability among the business model.

Currently, companies are concerned about environment and are trying to offer a value proposition based on sustainability. However, only a few companies are able to become sustainable in a successful way.

Keywords: Sustainability, sustainable business models, environment.

2.1 INTRODUCTION

Currently, the business world is coming through a dramatic transformation. Environmental awareness of society and sustainability are reshaping the existing business models – even generating new ones (Schaltegger, Hansen & Lüdeke-Freund, 2016).

Environmental regulation is becoming more restrictive. In addition, companies now need to protect their corporate image and satisfy the stakeholders' needs. These influence decisions that have impact from employees to investors and customers; and developing business opportunities in an environmentally-friendly manner is required if they want to be competitive in their markets or even in new markets. (Cheng et al., 2014; Jakobsen & Clausen, 2016; Tsai & Liao, 2017).

In fact, many reports demonstrate that companies that embrace sustainability in their business models become more competitive and generate more benefits (Porter & Van der Linde, 1995).

Porter and Linde (1995) performed a study with industrial sectors that are pressed by complex environmental regulation: printing inks, refrigerators, electronics manufacturing, paint and coatings, dry cell batteries and pulp and paper. The authors concluded that it is possible to minimise the costs, even eliminate them, by adopting environmental regulations through a well-managed innovation process. Moreover, innovation will reduce or eliminate the environmental regulation costs and will bring competitive advantage to the company.

In order to reinforce this data, there is a survey (Accenture, 2013) which interviewed 1000 CEOs in 103 countries from 27 different industries. The results showed that 80 percent of the CEOs think that sustainability could be a way to improve their competitive advantage.

Nonetheless, there are so many social and environmental-oriented programs developed by organisations that have ended up in obscurity. The main reason that leads to this cause is that managers have not considered how those policies or programs will create business value to the company (Rodríguez-Vilá & Bharadwaj, 2017).

Moreover, according to Dean and McMullen (2007), the growing desire of market actors for the cessation of environmentally-degrading activities represent an opportunity for entrepreneurial action, and that exploitation of these opportunities by entrepreneurs can lead to the enhancement of ecological sustainability.

Therefore, environmental or sustainable entrepreneurship can gain profit through the exploitation of market imperfections. Entrepreneurs can design and develop innovative business models for minimising the environmental externalities so they can help to improve our environment and make the economy grow.

This chapter aims to show the evolution of the environmental management, the way companies are dealing with environmental problems and identify the gap between the scientific literature about methodologies that embrace sustainability and successful sustainable business models.

Moreover, the Discussion section shows a comparison between the methodologies for embracing sustainability that have been analysed.

The specific objectives of this chapter are the following:

- To identify the environmental issues that companies are currently facing.
- To discover environmental practices that companies are carrying out in order to solve the environmental issues.
- To analyse the new business trends related with sustainability.
- To determine the gap between the methodologies published in the scientific literature and current sustainable business models.

The scope of this work comprises the integration of the sustainability among private companies. Due to the awareness of society about environmental impact, companies are trying to adapt their value proposition in order to offer products and services that satisfy the needs of those customers that take in account sustainability as an attribute.

However, even if there are numerous methodologies for helping companies to become more sustainable, just a few companies are considered as sustainable companies.

Therefore, it is necessary to know the evolution of environmental management during the last few years in order to know how companies are dealing with sustainability and the reasons that keep companies away from becoming successful sustainable companies.

2.2 METHODOLOGY

With the aim to achieve the objectives stated for this chapter, the methodology deployed has been developed for retrieving information about the following topics:

- Identification of environmental issues that companies are still facing.
- Eco-innovative practices for dealing with those issues.
- Sustainable business models.
- Methodologies for embracing sustainability.

The literature research has been conducted through a snowballing procedure adapted from Wohlin (2014). This procedure requires the selection of keywords for deploying the research. Some of

the keywords and data strings were: sustainability, sustainable business models, environmental issues, sustainable methodologies and eco-innovative practices.

To obtain those data has been necessary to perform a literature review through two kinds of databases:

- Information about the eco-innovative practices and methodologies for embracing sustainability has been retrieved from scientific literature (e.g. Web of Science).
- Regarding the environmental issues that companies are facing and the current sustainable business models, the data was taken from private consultancies and Foundations with tracked experience about sustainability (e.g. McKinsey & Company and the Technical Secretary of the Eco-innovation Laboratory).

During the process of Backward Snowballing papers only focused on operative activities, technological and engineering methodologies were excluded. The search was focused on topics related to strategic positioning (business models, value proposition and stakeholders relationships).

The Forward Snowballing process added some papers that were published during the writing process and fit with the scope of this chapter.

2.2.1 Methodologies analysed

There are numerous methodologies designed with the aim for companies to embrace sustainability. However, this chapter will analyse methodologies that help companies from a holistic point of view. Thus, only methodologies those try to deploy changes among strategic areas of the companies have been analysed.

In addition, the authors of those methodologies hold a long career and expertise about sustainable business models.

The Framework for Strategic Sustainable Development (FSSD):

The Framework for Strategic Sustainable Development (FSSD) is a methodology that was created more than 25 years ago. However, it has been reviewed and changes have been incorporated during those years.

This methodology combines strategic points of view with some operative areas. So it can be pooled with the Business Model Canvas (Osterwalder & Pigneur, 2010). Moreover, it has a wide acceptance among the industry.

Sustainable Business Model Canvas (SBMC):

This methodology is a variation from the Business Model Canvas designed by Osterwarlder and Pigneur (2010) that replaces the areas of the business models with environmental topics.

This methodology has been selected on one hand because the original Business Model Canvas has had a significant influence among entrepreneurs, consultants, academics and researchers. On the other hand, this tool has been tested through private consulting, organizational workshops, and university courses. In addition, according to the authors, the SBMC has showed successful results for visualizing and communicating existing business models, finding information gaps and exploring sustainability-oriented innovation.

Value Mapping Tool (VMT):

Value Mapping Tool is a methodology that helps companies to develop a value proposition that holds an important attribute based on sustainability perceived by the customers. The way this methodology was created was analysing six firms perceived to be actively engaging in business model innovation for sustainability.

The selected firms were spread across a range of industry sectors, and include start-ups, small and medium size enterprises (SMEs) and multinational companies (MNCs).

Environmental Purpose Strategies (EPS):

Environmental Purpose Strategies (EPS) is a methodology used for choosing the way to communicate the company's value proposition to its niche market.

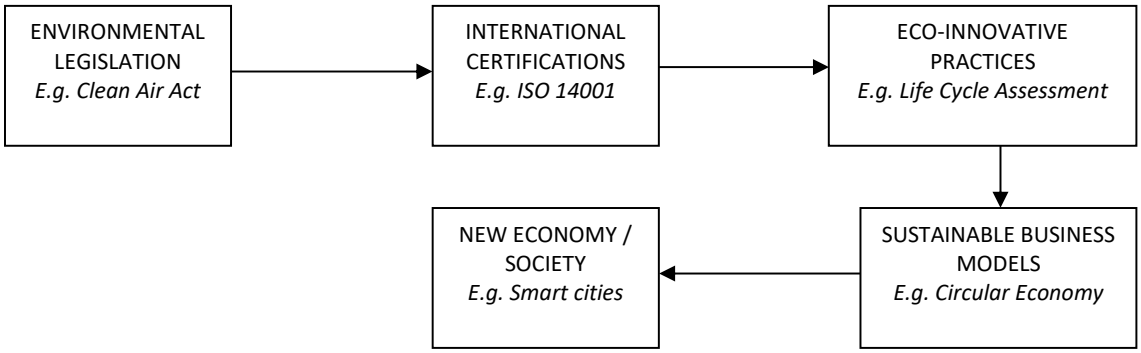
This methodology has been analysed because the study has been published recently (2017) and that methodology has been implanted in large-established companies like Nike.

For carrying out this research it has been necessary to exclude some methodologies. For instance, there is a methodology named "Sustainability strategic planning and management methodology" (León-Soriano, et al., 2010) which describes the process of designing and implementing a sustainability balanced scorecard for organizations. Even though this methodology covers several areas from the organizations (e.g. mission and vision, stakeholders analysis and strategy execution) it has been tested only in one company.

2.3 EVOLUTION OF THE ENVIRONMENTAL MANAGEMENT

Some decades ago, corporations had to adapt their processes to environmental regulation that governments started to establish. Some years later, international organisations created certificates like the ISOs (International Standard Organization). There are some companies that have gone one step beyond regarding environmental protection and have developed innovative practices which have led to changes in their business processes (Leitner et al., 2010). Currently, new business models and business trends are emerging that are helping to fight against climate change through disruptive solutions (Pujari, 2006). Likewise, society is becoming more concerned about the environment and is changing its mind to sustainable consuming trends; so, the combination between the mind changes and new business trends will give rise to a power evolution in the economy (Revell et al., 2010).

Figure 2.1 Diagram that shows the evolution of the environmental management for several decades ago.

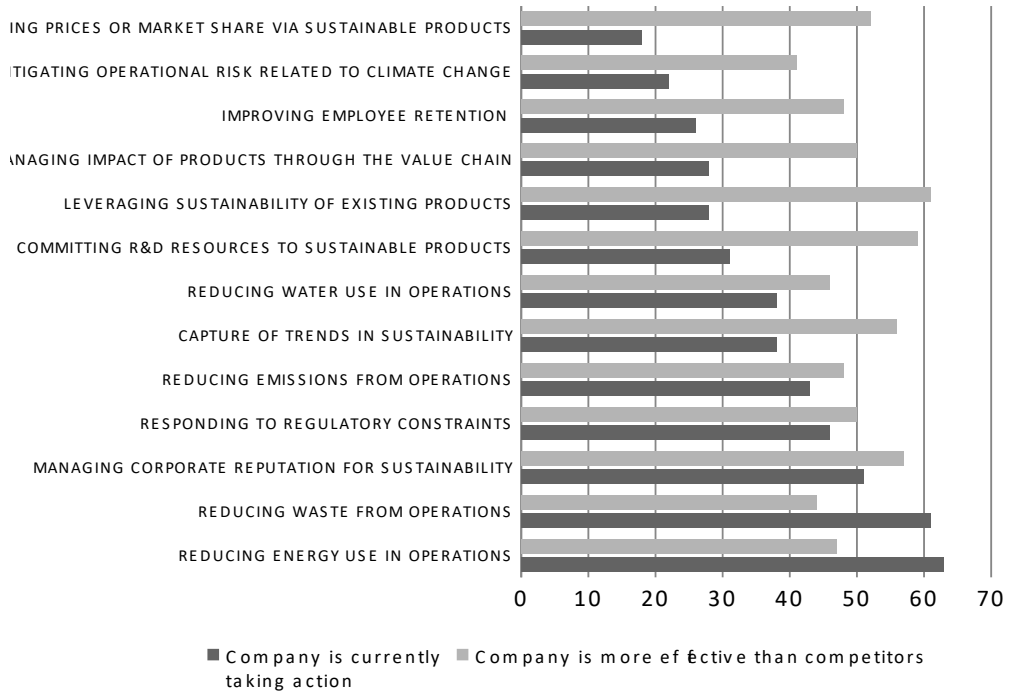


Source: Leitner et al., (2010); Pujari, (2006); Revell, et al., (2010).

However, companies still have a long list of environmental issues that they have to deal with. For instance, an intensive industrial economy based on consuming natural resources for producing consumer goods is causing environmental damage, as pollutant emissions, resources scarcity which leads to climate change.

Figure 2.2 shows the most important environmental matters that companies are still trying to solve or improve obtained from a study performed by McKinsey & Company (2011):

Figure 2.2 Results from a poll about the environmental issues pending to be solved.



Source: McKinsey & Company, (2011). Data shown in percentages. Poll made with 2,956 respondents. Respondents who answered 'don't know' or 'none of the above' are not shown.

Regarding these results, the areas where most executives say their companies are taking action include reducing energy usage and reducing waste in operations, ahead of reputation management. Fewer respondents report that their companies are leveraging the sustainability of existing products to find new growth or committing R&D resources to bringing sustainable products to market. Yet, both of these are important ways sustainability can drive growth: organisations that act in these areas are the likeliest to say they are more effective than their competitors at managing any other sustainability initiatives.

2.4 SUSTAINABLE BUSINESS MODELS

As the evolution of the technology focused on environmental impact reduction has not been able to reduce dramatically the environmental issues produced by organisations, new business models and business trends are coming out with the objective of solving those matters. Those new business models have been called "sustainable business models".

The Sustainable business model has been defined by Lüdeke-Freund (2010: p. 23) as a "business model that creates competitive advantage through superior customer value and contributes to a sustainable development of the company and society".

The following list shows the most important sustainable business models and examples of real companies for each business model (Technical Secretary of the Eco-innovation Laboratory, 2016):

- Circular economy.
- Sustainable production.
- Servitisation.
- Sustainable consumption.

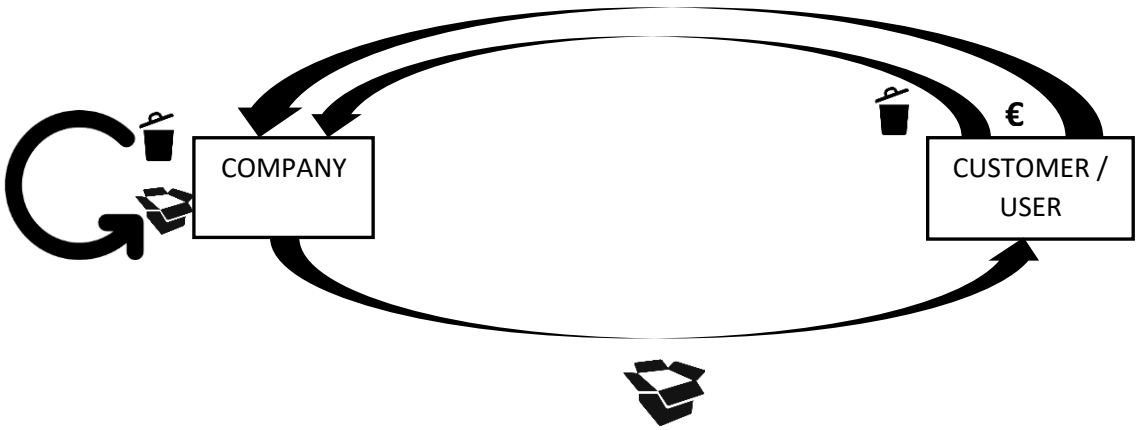
2.4.1 Circular economy

The circular economy seeks to create new value from what is currently perceived as waste (Bocken et al, 2014). So, business models based on circular economy turns waste streams into useful and valuable input to other production (Figure 2.3).

Circular economy reduces the environmental impact from industry due to the reduction of resources demand. Therefore, it is able to close the material loop because it uses waste streams as raw material for other industrial processes (Boons & Lambert, 2002).

For example, some apparel companies are taking back used clothes from customers in order to recover the fabrics to use them in new clothes.

Figure 2.3 Diagram of a business model based on circular economy. Companies manufacture goods using waste generated by other companies or users as raw material.



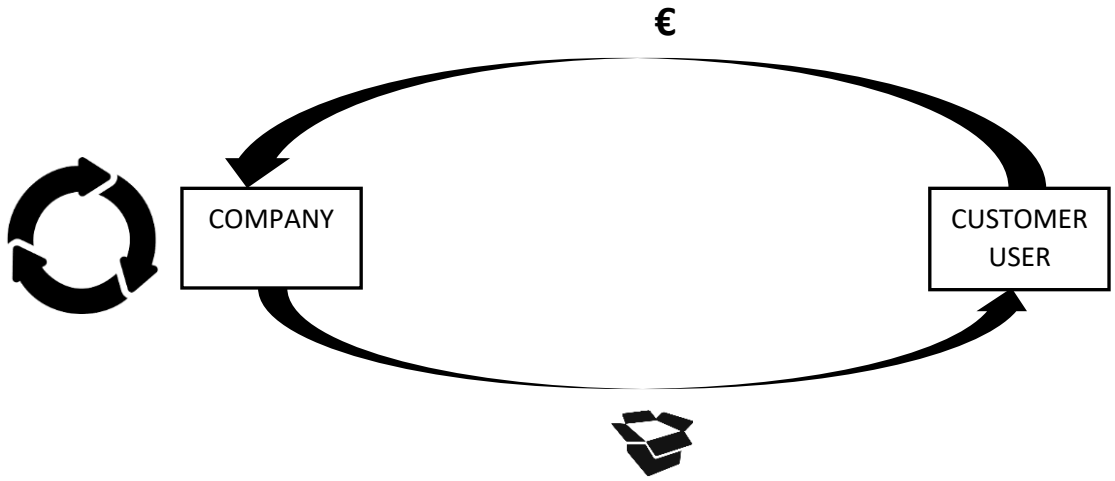
Source: Technical Secretary of the Eco-innovation Laboratory, (2016)

2.4.2 Sustainable production

Sustainable production business models consist in the manufacture of goods through sustainable procedures (Figure 2.4). The main goal of sustainable production is reducing the environmental impact through reducing the consumption of non-renewable resources and current production systems (Bocken et al., 2014).

For example, supermarkets that only offer ecologic products produced through sustainable processes.

Figure 2.4 Diagram of a business model based on sustainable production. Companies based on sustainable production develop business processes focused on the reduction of the environmental impact.



Source: Technical Secretary of the Eco-innovation Laboratory, (2016)

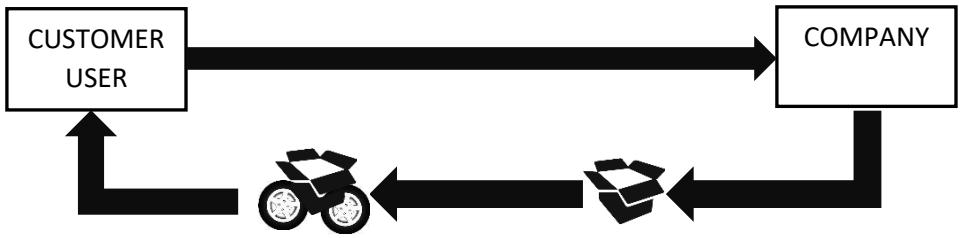
2.4.3 Servitisation

Business models based on servitisation turn a manufactured product into a combination of products and services as seen in Figure 2.5 (Tukker, 2004).

This kind of business models can change consumption patterns reducing the need for product ownership. Moreover, it can change production patterns incentivising manufacturers to design and produce products with longer life-span and that are able to be repaired, potentially reducing resource use (Mont & Tukker, 2006).

For example, users from car sharing companies offer their cars (product) for taking people from one point to another (service).

Figure 2.5 Diagram of a business model based on servitisation. This business model turns products into services.



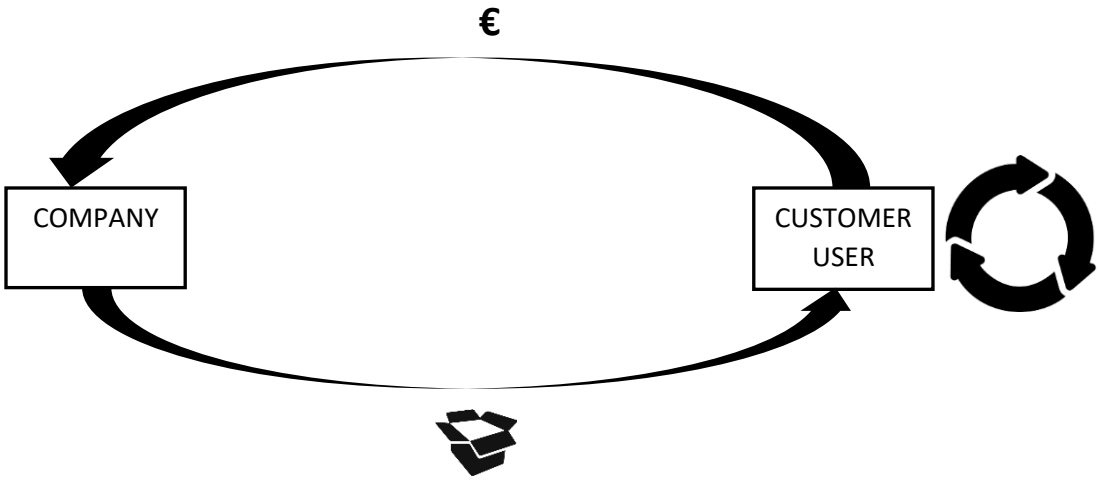
Source: Technical Secretary of the Eco-innovation Laboratory, (2016)

2.4.4 Sustainable consumption

Companies based on sustainable consumption develop their businesses with the aim to reduce the consumption of material and energy from their processes as represented in Figure 2.6, (Bocken, et al., 2014).

For example, clothing companies that show tips to their customers for repairing the clothes and for extending the life-span of them.

Figure 2.6 Diagram of a business model based on sustainable consumption. Companies based on sustainable consumption, unlike sustainable production business model, offer goods or services that are considered sustainable because of its long life-span or the low environmental impact of their use.



Source: Technical Secretary of the Eco-innovation Laboratory, (2016)

Moreover, these trends are not only coming from new companies, existing companies are also integrating this way of doing business into their business processes.

2.5 RESHAPING BUSINESS MODELS OF EXISTING COMPANIES

Even though there are several types of sustainable business models, and offering sustainable products or services currently could look like a profitable business, just a few companies have been able to incorporate sustainability successfully into their business models (Esty & Winston, 2006).

For embracing sustainability in a fruitful way it is necessary to modify intensively numerous areas of the company, from the corporate culture to the production lines. This means that leading this dramatic change is a hard job for most of the managers and CEO's (Esty & Winston, 2006). Therefore, in order to have a structured way to work, those organisations are looking for new methodologies that could help them to achieve their sustainable goals (Lozano, 2014).

For these reasons, a recent field of scientific study is the development of a methodology capable of converting traditional companies into sustainable companies.

In this chapter, four methodologies have been analysed in order to study the way companies establish the procedures for integrating sustainability into their business models.

The methodologies analysed in this chapter are:

- Sustainable Business Model Canvas (SBMC).
- Framework for Strategic Sustainable Development (FSSD).
- Value mapping tool (VMT).
- Environmental Purpose Strategies (EPS).

2.5.1 Sustainable business model canvas (SBMC)

This methodology is a variation of the business model canvas designed by Osterwalder and Pigneur (2010). According to the authors (Joyce, A. and Paquin, R., 2016), the Sustainable Business Model Canvas (SBMC) is useful for understanding a business model and how it can be changed through sustainable-oriented innovation.

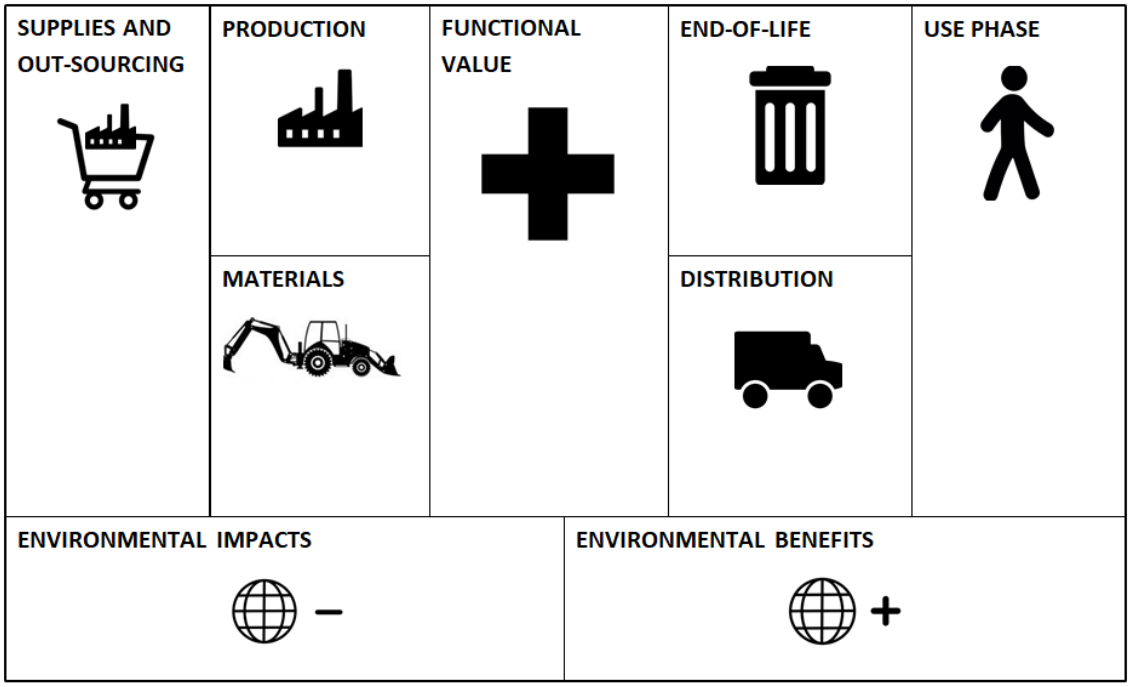
This tool consists in the addition of new canvas layers that try to explore sustainable-oriented innovation instead of the original economics-oriented business model concept. So the SBMC tries

to help the research of sustainable business models and sustainable innovation in a broad way (Figure 2.7). In addition, these authors have created another layer based on social attributes, so the user will use the three layers – the original layer (developed by Osterwalder and Pigneur (2010)), the environmental, and social layers) – in order to identify how the connections that environmental and social impact will deploy between each other.

The SBMC holds the same structure than the Osterwalder's Business Model Canvas, however, each area of the canvas has a different purpose:

- Functional value: Description of the outputs of a product or service. The point of functional value is determining what product or service will be analysed.
- Materials: All the products or raw materials necessary to render the functional value.
- Production: Set of activities necessary for the company to create value.
- Supplies and outsourcing: Materials and production activities necessary to create value but are not considered essential in the core business.
- Distribution: Network for accessing to the functional value.
- Use phase: Identification of the impact produced by the customer when they use the product or service.
- End-of-life: Environmental impacts associated to the end-of-life of a product, such as recycling, disassembly, disposal of a product or incineration.
- Environmental impacts: Ecological costs of the organization's activity.
- Environmental benefits: Ecological value created through the environmental impact reductions.

Figure 2.7 Environmental Life Cycle Business Model Canvas.



Source: Joyce, A. and Paquin, R., (2016).

2.5.2 The framework for strategic sustainable development (FSSD).

The application of the FSSD consists in the establishment of basic principles for achieving a sustainable company and the development of strategic guidelines that will be supported by several actions and tools (França, et al., 2016).

The most important features of the FSSD include:

- Funnel metaphor of the sustainability challenge and related opportunities.
- Five-level structuring and inter-relational model.
- Principled definition of sustainability.
- Operational procedure for co-creation of strategic transitions towards sustainability.

The five-level structuring comprises the following levels:

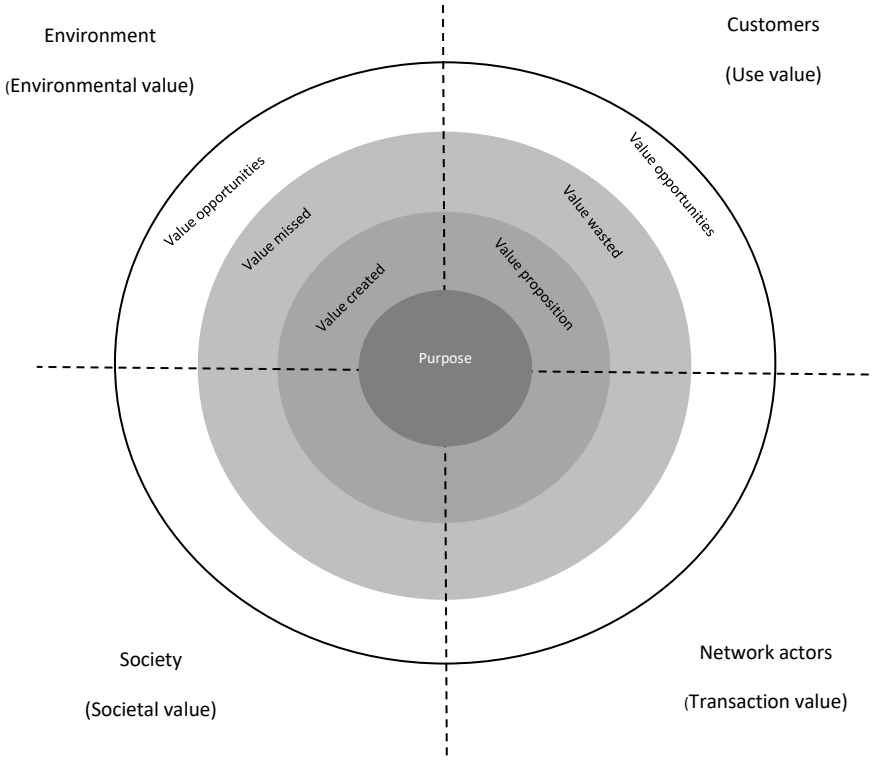
- System: analysis of the stakeholders' network, value chain, etc.
- Success: definition of the vision or 'end-goals'.
- Strategic guidelines: the routes that need to be embraced for achieving the vision.
- Actions: specific actions that will be carried out under the approach of the strategic guidelines.
- Tools: methodology and tools that will be used, e.g., Life Cycle Assessment.

These authors (França, et al., 2016) state that the combination of the BMC and the FSSD can be useful in order to integrate sustainable development within the organisation's vision, strategy and business model. The SBMC adds business specificity and also adds a mean for being visual and creative in mapping the extended enterprise, and to generate business-oriented solutions for related sustainability challenges.

2.5.3 Value mapping tool

Bocken, et al., (2013) have developed a tool to help firms create value propositions that suit for sustainability. This tool identifies areas of the business where there are possibilities to create value for customers, environment, society and network actors or stakeholders (Figure 2.8):

Figure 2.8 Simplified value mapping tool.



Source: Bocken, et al., (2013).

This tool is focused on the value proposition of the company and how to embed sustainability into the core business from a multi-stakeholder perspective. So it needs to be used through an iterative process based on the analysis of the creation of opportunities that create sustainable value.

This tool can be used as a stand-alone tool for helping companies and stakeholders to explore ways of sustainable value generation and get ideas about how and where to modify the value

proposition; but it can also be used as a complementary tool from other tools like the SBMC (Bocken et al., 2012).

2.5.4 Environmental purpose strategies.

This methodology does not try to assist in developing a strategy; this tool helps at the end of the sustainable model generation process. So, once the users have developed different sustainable strategies that could fit with the objective of the organisation, this methodology will help them to decide which one will be more successful (Rodríguez-Vilá & Bharadwaj, 2017).

This methodology has been developed because brands know that customers prefer to buy products from companies with an environmental purpose. However, the environmental programs originated by companies can harm the brand position if it is not managed carefully.

Therefore, according to Rodríguez-Vilá and Bharadwaj (2017), the best way to enhance an environmental strategy is creating value by strengthening the brand's key attribute or building new adjacencies. At the same time, it mitigates the risk of negative associations and threats to stakeholder acceptance.

For this reason, when managers are considering launching a sustainable strategy, they should evaluate the strategy. Basically, the best strategies are those ones that generate business value and minimise the company's exposure to risk.

For evaluating the suitability of each strategy, authors have developed a set of questions (Table 2.1) that need to be scored (0 or 1). If the strategy does not add value, it receives a 0 score. If the strategy does add value, it receives a 1 score. The value depends on the potential to create value or risk reduction. Then the most suitable strategy will be the one with the highest mark.

Table 2.1 Table with the questions and marks used for scoring two sustainable strategies

	SUSTAINABLE STRATEGY "A"	SUSTAINABLE STRATEGY "B"
BRAND ATTRIBUTES		
Does the strategy reinforce existing brand attributes?		
Will it create new brand attributes?		
Will it be difficult for competitors to imitate?		
Total score		
BUSINESS ADJACENCIES		
Will the strategy help create a new product or service for current customers?		
Will it help open a new market or distribution channel?		
Will it help reduce costs or increase the profitability of the business?		
Total score		
CONSUMER ASSOCIATES		
Is the environmental need likely to be perceived as personally relevant to target consumers?		
Will consumers easily see the connection between the brand and the environmental need?		
Total score		
STAKEHOLDER ACCEPTANCE		
Can the brand have a demonstrable impact on the environmental need?		
Will key stakholders on the front lines of the issue support the strategy?		
Can the brand avoid inconsistent messaging, perceptions of opportunisms, and politicization?		
Total score		

Source: Rodríguez-Vilá, O. & Bharadwaj, (2017).

The authors used the Environmental Purpose Strategies tables for comparing two strategies that Nike wanted to develop during last few years:

- Showing the customers the waste material decrease in the manufacturing process.
- Promoting the participation of girls in sports.

Applying this methodology, it was selected the strategy about the promotion of the participation of girls in sports. Even though the ‘brand attributes’, ‘business adjacencies’ and ‘stakeholder acceptance’ had similar results for both strategies, the section of ‘consumer associations’ scored

three points for the promotion of girls in sports and zero points for the waste material reduction strategy.

2.6 DISCUSSION

Environmental management started some decades ago when Governments and Public Administrations decided to regulate the environmental protection. Since then, environmental management has changed dramatically.

Some years later, in 1993, the European Commission published the Eco-Management and Audit Scheme (EMAS). Three years later, in 1996 the International Standard Organization published the ISO 14001.

However, some companies wanted to go one step beyond about sustainability and, assessed by the studies that state that embracing sustainability improves competitiveness (Porter & Van der Linde, 1995), have developed eco-innovative practices.

Cheng et al. (2014) divides eco-innovation in external and internal eco-innovation. External eco-innovation includes the external sustainable activities of the organization (suppliers, regulators, etc.). Internal eco-innovation considers all the practices and processes that are carried out within the corporation for managing eco-innovation processes in an effective and efficient way (management, production process and new product development).

In addition, depending on the area of the business affected by the eco-innovation practice, eco-innovation can be classified in three types:

- Eco-process: Life Cycle Assessment (LCA).
- Eco-product: Environmental new product development (ENPD).
- Eco-organizational innovations: Supplier involvement.

Nevertheless, even those certificates and eco-innovative practices, organizations still need to deal with several environmental problems; e.g., recycling, waste water treatment or energy management. In addition, because of the increase of customers concerned about environmental protection, now companies need to deal with new topics like managing the reputation for sustainability or leveraging sustainability of existing products.

Due to the environmental problems and society awareness about sustainability, those issues are perceived as market niches. Therefore, there are new business models coming out that place sustainability in their core business. Moreover, established companies develop processes similar

to the processes of the sustainable business models to be able to reduce their environmental impact.

Therefore, those issues are being perceived as market niches so there are new business trends coming out for solving from the most common issues (e.g., waste treatment) to the most recent issues (leveraging sustainability of existing products).

Nevertheless, as only a few companies are able to embrace sustainability and integrate it among its business models in a successful way (Esty & Winston, 2006), researchers have been conducting works for deploying methodologies for adopting sustainability effectively.

2.6.1 Comparison of the sustainable business models

In this work, several business models and the latest methodologies developed for creating sustainable business models have been identified and analysed.

Many tools have been developed in order to design business models (e.g., Business Model Canvas) or decide which kind of strategy to deploy (e.g., Porter's Five Forces Analysis). Moreover, it is possible to find many tools for developing eco-design products or services. However, just a few tools for changing business models in order to become more sustainable have been designed.

The tools that we have analysed previously do not try to focus just on the sustainability dimension; they attempt to engender a holistic perspective. Nevertheless, current tools have not been used widely in society yet, and most of them need an external expert for being deployed within a corporation (Bocken, et al., 2013).

Table 2.2 summarises the advantages and disadvantages of each methodology of the four methodologies analysed:

Table 2.2 Comparison of pros and cons of the methodologies analysed.

METHODOLOGY	**ADVANTAGES**	**DISADVANTAGES**
	Easy to use tool that allows exploring and innovating the economic, environmental and social lines of the company in an integrated way. Provides a visualisation of the organisation and the manner to create value in an intuitive way	It does not do the work of exploring and assessing innovations, only highlights the potential lines to explore. Some users find the first steps a bit overwhelming.

Sustainable Business Model Canvas (SBMC)	that can enhance changes in the business model.	
Framework for Strategic Sustainable Development (FSSD)	Details a well-structured procedure for analysis and assessments that avoid confusion. Identifies and clarifies the inter-relationships between aspects of different characters. Allows for the unification between sustainability and business operations	Complicated and sophisticated methodology. It takes time and effort to manage it properly.
Value Mapping Tool (VMP)	Applicability to all organisations: exploration of new opportunities for start-ups, advice in the redesign business models of established corporations and develop strategies in public sector and non-government organisations.	In order to achieve the best results it is necessary to gain the support of external actors (participants / facilitators), because they will incorporate a new perspective of the current sustainable business practices.
Environmental Purpose Strategies (EPS)	Simple and user-friendly tool. It is not necessary to have deep knowledge of current sustainable trends.	Methodology based on qualitative attributes. Addressed for well-known big companies with several years in the market and established brand value.

Source: Own elaboration.

On one hand, previous methodologies should be used in different scenarios depending on the company and its situation. All of them can work for existing companies. However, the 'Environmental Purpose Strategies' will be useful only for established companies that hold a well-known brand. In addition, the 'Framework for Strategic Sustainable Development' tool will fit better within a company that has a developed structure and standardised business processes.

On the other hand, combining the use of different methodologies for the same company can reveal better results than implementing just one methodology. For instance, exploring the way to embrace sustainability within an existing company via the 'Value Mapping Tool' can show a holistic point of view of the company and its interdependent relationships with stakeholders and customers. Then, the use of the 'Sustainable Business Model Canvas' can show a wide vision of

the new business model. Finally, the 'Framework for Strategic Sustainable Development' can deploy the adaptation of the business processes to the new sustainable goals.

There is ample evidence that some of these tools, like the FSSD, are working well in the companies and administrations that develop it. Nonetheless, there are only a few companies, public administrations, and institutions using those tools for facing the sustainability challenge.

Besides, it is necessary to take into account that consumers do not buy a product or service just because it is sustainable; they buy it because they make it work for them and sustainability is an attribute that increases their willingness to pay for it (Esty & Winston, 2006). So, it is important to apply those methodologies that will reshape business models keeping the original task or service that products used to do for customers.

Transforming a business model in order to produce the growth that sustainability will bring is difficult because most of the companies do not understand and know their existing business models deeply. As a result, managers are not able to decide between leveraging some of the factors of the business model (like the value proposition or profit formula) and performing a profound modification of the business model (Johnson, M. et al., 2008).

Therefore, some of the business models presented in the Section 4 (Sustainable Business Models) are becoming successful and are spreading through society because they offer the same solution to the customers by adding the attribute of sustainability.

For instance, Patagonia (an American clothing brand specialised in mountaineering) sells clothes produced in a sustainable way and promotes a sustainable consumption because it also provides tips and recommendations in order for the clothes to last longer. So Patagonia offers a product (clothes) for doing sports in the mountain and the sustainable attribute attracts those people that are more aware about the environment.

It is important to notice that these results reveal that there is a gap between the current sustainable business models and the methodologies developed by the experts with the aim to turn traditional business models into sustainable business models. So a new research field should be based on the development of a methodology that identifies the environmental issues that companies are facing and move forward with the transformation of the traditional business model into a sustainable business model.

2.7 CONCLUSIONS

Society and economy are changing. Companies and users are concerned about sustainability and there are numerous entrepreneurs, corporate leaders, and customers that are placing sustainability as one of the most important points in order to use or buy a product.

For this reason, there are several sustainable business models that are becoming popular. Those business models can be found in existing companies, and also there are entrepreneurs that create their companies by placing sustainability in the core business. This means that the economy is going from an industrial and manufacturing base to one that is more service-based.

Companies that want to become sustainable can use methodologies that will help them in this transition. Although the use of those methodologies is not widespread at the moment and just a few companies are able to achieve this goal.

The gap between the successful sustainable business models and current methodologies reveals that it is necessary to develop research focused on the analysis of those business models and the way that traditional companies can incorporate them within their structure in an effective way.

So, currently there are so many companies looking to become sustainable because their customers are more aware about environmental protection. There are several methodologies for helping companies to embrace sustainability and there are also sustainable business models. However, those methodologies are focused on deploying several changes in the business model or the operative of the companies; they don't have the aim to re-shape the whole business model. Therefore, there is still a long path for designing a methodology able to reshape 'traditional' business models and turning them into a successful sustainable business model.

2.7.1 Limits and future research

While this chapter gathers and analyses several sustainable business models and sustainable methodologies, there are also some clear limitations to consider. Firstly, sustainability and business models are fields that are evolving rapidly, and new sustainable business models and methodologies will be designed in short term. Secondly, it is necessary to state what can be considered as a 'successful' business model and a 'successful' sustainable methodology.

Future research should be focused in a backward way. So, it will be necessary to analyse current successful sustainable business models in order to know how those companies have reshaped their business models. Then, after some cases have been reviewed, a methodology for embracing sustainability will be designed. There are several methodologies and procedures focused on the operative activities (e.g., Life Cycle Assessment), however it is necessary to initiate a research

line about methodologies that are focused on the business model or strategic point of view from a company's vision.

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CAPITULO 3

BUILDING A THEORETICAL FRAMEWORK FOR CORPORATE SUSTAINABILITY

Building a Theoretical Framework for Corporate Sustainability

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ABSTRACT

Literature about sustainability and sustainable businesses has become a large field of study during the last years. This field is growing so fast that there are sub-areas or bodies of literature within the sustainability which scopes with clear boundaries between each other. This has caused the apparition of several methodologies and tools for turning traditional companies into sustainable business models. This paper aims to develop the descriptive stage of the theory building process through a careful review of literature to create the first phase of a theory about corporate sustainability. It provides the following classification of concepts retrieved from the observation of the state of art: holistic sustainability, sustainable business models, sustainable methodologies, sustainable operations, and sustainability-oriented innovation. In addition, it seeks to establish relationships between the sustainable concepts and the expected outcomes that their implementation can generate among companies and organizations. Finally, it gives an overview of possibilities for managers that want to embed sustainability in their firms and clear paths of research for keeping the building of the theory about corporate sustainability as a process of constant iteration and improvement.

Keywords*: sustainability; holistic sustainability; sustainable business models; theory building process; literature review; eco-innovation; sustainable operations; sustainable methodologies; sustainability-oriented innovation.*

3.1 INTRODUCTION

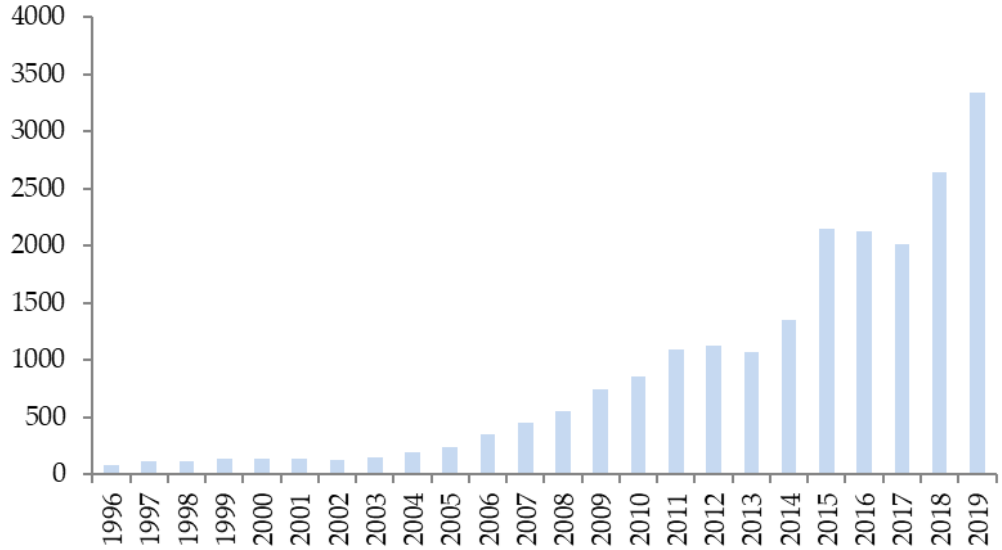
The impact of sustainability in our society is so profound that some authors call this phenomenon the sustainability revolution (Edwards, 2005). From a managerial point of view, sustainability comprises the amount of sustainable practices implemented by companies as a response to new challenges and stakeholder pressures. These practices can be applied in several areas of the company, from corporate strategy to business processes (Eccles, et al., 2014). In fact, there is a debate between researchers who state that sustainable practices are only able to reduce costs or improve the company's environmental, social, and governance (ESG) ratings but are not able to build competitive advantage. On the other hand, there are those who defend companies that can integrate sustainability into their strategy and lead them to a better performance and a competitive advantage generation (Ioannis & Serafeim, 2019).

A survey that analyzed the opinion of more than 1000 global executives has been published, the results of which state that 99% of the surveyed state that "sustainability issues are important to the future success of their businesses" (Winston, 2019). Moreover, 94% of the executives consider they should link their company's purpose and role within society. The number of CEOs (chief executive officers) that hold that there is no link between sustainability and value generations represents a quarter of the surveyed and only 8% of them consider the lack of knowledge for moving forward to a more sustainable scenario a problem.

Despite of these encouraging results, just 21% of global executives believe their companies are contributing to the UN Global Goals (Sustainable Development Goals) in a significant way.

From an academic point of view, research about the field of corporate sustainability has been increasing gradually since 1996 reaching the peak of 3338 publications in 2019. Figure 3.1 contains a visual diagram that shows the number of publications about sustainability retrieved from the academic database Web of Science.

Figure 3.1. Overview of the evolution of research papers on sustainability.



Source: Web of Science.

Therefore, this work tries to establish the relationship between the sustainable practices adopted by organizations and the results achieved. The analysis of this relationship has been performed under the frame of the theory building process (Christensen & Carlile, 2009). Specifically, it aims to analyze the literature about corporate sustainability in order to know the way that managers embrace environmental practices across their processes, business models, innovation orientation, and strategic planning.

We have identified that academic literature on corporate sustainability can be classified in several research fields. The main feature that allows identification of each research field or body of knowledge is the scope of the publications. As was shown above, on one hand, some researchers analyze sustainable practices that only affect concrete business units or business processes. On the other hand, there are researchers that state that sustainable practices need to have a broader unit of analysis and should be handled as managerial issues. Therefore, these research fields offer different strategies and techniques for companies to embrace sustainability.

In addition, sustainable companies, which are those companies that develop their activities according to the ESG (environmental, social, and governance) criteria and measure their impact based on the ESG metrics, are more profitable than those companies that do not care about the environment; investors analyze companies also considering the sustainable practices they carry out. Hence, there are some authors that classify and categorize environmental practices deployed by companies in order to help investors evaluate the degree of adoption of sustainable policies among the organization (Bernow, et al., 2017).

There are several areas of study in the field of management that try to help managers make better decisions for their businesses. The field of corporate sustainability or sustainability management shows a similar pattern to the field of management. This area of study was originated by Taylor with his seminal work Principles of Scientific Management in 1911 (Taylor, 2011), published after the Industrial Revolution. After that, other important works about management were published during the mid-20th century (as e.g., Schumpeter in 1947 or Weber in 1947). Currently, management is a field of study with a wide range of publications, scientific works, books, and educational programs.

For instance, Porter (Porter, 1996) states that there are two different fields that managers need to take into account when they are going to make decisions: strategic decisions and operational effectiveness decisions. Kaplan and Norton (1996) deployed the Balanced Scorecard with the aim of helping executives to align their business's purpose with the strategy and operations of the organization. Even the field of strategy holds different sub-areas like "corporate strategies", "competitive strategies", or "growth strategies" (Sainz de Vicuña, 2017).

On the other hand, there are even authors that have developed some proto-theories about sustainability (Starik, & Kanashiro, 2013; Chang, et al., 2017); those works have not reached the acceptance like the theories or frameworks published in the traditional management field. Nevertheless, as this topic is getting more complex, it is giving birth to more sub-fields or sub-areas of study and leading to a new way to do business. The establishment of robust frameworks and theories is needed.

For this reason, and using the research works from management field as a mirror to know which is the best way to move forward, researchers working on sustainability topics should make an effort to study the causal mechanisms that lead companies to embrace sustainability in a successful way and to figure out the causality relationships between sustainable variables that will lead to expected outcomes. Therefore, this paper develops the descriptive stage of the theory of corporate sustainability framed in the social sciences (Christensen & Carlile, 2009). This work might help managers to make their firms more environmentally friendly and improve the efficiency of sustainability programs that might be implemented among their organizations.

The deployment of this theory has made it possible to outline and classify the state of the art about sustainability in order to provide a common language for the literature needed to analyze and implant in organizations depending on the unit of analysis.

The results section shows an approach of how the data retrieved can fit within the first phases of the theory building process. Thus, the theory of corporate sustainability will allow managers to know what actions to develop in their companies in order to obtain expected outcomes.

Finally, the discussion and conclusion sections explain how the process of building a theory can improve the decision-making process of managers and new lines of research.

3.2 MATERIALS AND METHODS

In order to classify the literature about sustainability and to build the theory of corporate sustainability it was necessary to deploy two systematic literature reviews about the following research fields:

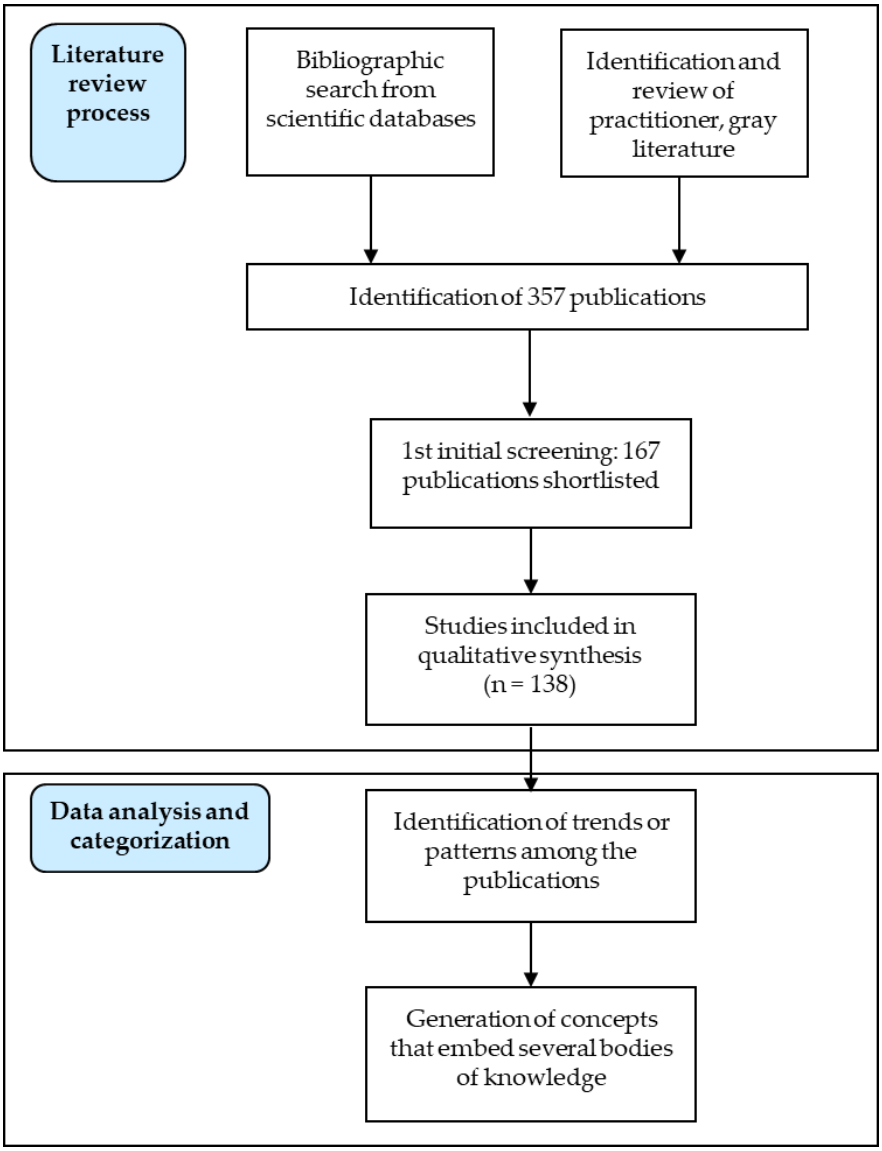
- Theory about the theory building process.
- Corporate sustainability.

3.2.1. Literature Review of Sustainability

The main objective of the literature review of sustainability was the identification of the most important publications in order to establish a classification of different types of units of analysis in the topic of sustainability.

To facilitate the process of selection criteria, it was necessary to create a review protocol. Figure 3.2 shows the process followed and explanations can be found in the next sections.

Figure 3.2. Overview of the literature review and analysis process deployed in this paper.



Source: Own elaboration.

The literature review process took place from September 2018 to April 2019. During this process, authors identified publications related to sustainability through a bibliographic search. The information retrieved was selected from peer-reviewed literature, and from reports and publications from gray[1] literature.

[1] Literatura gris se define como cualquier tipo de documento que no se difunde por los canales ordinarios de publicación comercial.

The academic databases employed were Web of Science and Google Scholar using the following combination of keywords: sustainability, strategic sustainability, sustainable business model, eco-innovation, and sustainable methodology.

The research process followed a broad strategy in order to create a wide point of view of the current state of the art on sustainability. The gray literature was also necessary because this is a topic which is rapidly expanding and there is a remarkable interest from several players. In fact, there are non-academic organizations like companies, foundations, and non-governmental organizations (NGOs) (listed in Appendix A) publishing rigorous data which deserve to be examined.

The research retrieved a total of 138 publications.

Shortlisting of Sustainability Topics

Sustainability or corporate sustainability is a broad concept that encompasses numerous sub-topics. Although this review process needed a wide scope, it was necessary to establish boundaries and develop a filtering process with the aim of selecting the most rigorous works. Table 3.1 summarizes the selection criteria of the publications that were analyzed during the process of literature research.

Table 3.1. Overview of the selection criteria of the publications.

No.	Criteria	Description
1	The publication must be relevant to Sustainability	The initial screening was focused on the corporate sustainability or how companies embrace sustainability in their day a day.
2	The scope of the publication encompasses one or more business areas	The scope of the publication need to be addressed to companies and busiess from a manaegerial point of view.
3	The publication must contain data rigorously documented	Data used in these publications need to be rigorous and results need to be replicable by other researchers.
4	Tools and procedures need to be validated in practice	Tools and procedures need to be tested and documented on the publication. In addition, authors have to illustrate the results obtained through the application of the tool or procedure.
5	Tools and procedures are ready to use	Tools and procedures need to be replicable by experts in other businesses or organizations.

Source: Own elaboration.

After the shortlisting process, 138 publications met the requirements of the selection criteria. The list of the final selection of publications is provided in the Appendix B. To ensure the accuracy of the literature review process, all the publications were independently examined by the authors.

3.2.2 Literature Review of Building Theories in Social Sciences

The literature research on theory building processes was conducted through a snowballing procedure (Wohlin, 2014). This technique has been used in other works related to the analysis of sustainable business models like Geissdoerfer et al. (2017) and Weissbrod and Bocken (2017).

The keywords used for deploying the research were: theory building, social sciences, and theoretical framework.

Data were retrieved from publications in peer-reviewed literature and were also complemented by research across gray literature. Web of Science and Google Scholar databases were used for this process using a combination of these keywords: theory, theory building, theoretical framework, research guidelines, conceptual framework, concepts, and grounded theory.

During the process of snowballing, those papers that established a specific theory and did not show the theory building process were excluded. In total, 20 publications were selected.

There are several works on the theory building process in social sciences (Kuhn, 2018; Popper, 1959; Kaplan, 1964; Stinchcombe, 1968; Simon, 1976; Roethlisberger, 1977; Kaplan, 1986; Weick, 1989; Van de Ven, 2000). One of the main sources of information about the theory building process comes from the work developed by Carlile and Christensen in 2009. Aside from that, these authors have developed their own theories (i.e., Christensen developed the theory of disruptive innovation (Christensen, 1997) and the theory of interdependence and modularity (Christensen & Raynor, 2003), among others).

In addition, to move forward towards the theory building process, it was necessary to develop concepts and frameworks. That was possible through the analysis of the work of Whetten (1989), Jabareen (2009) and Meredith (1993).

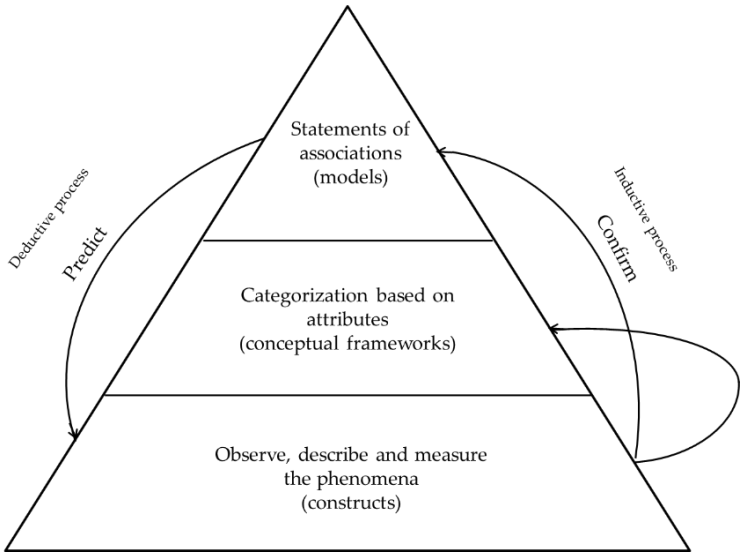
The reason for combining the sustainability classification with theory building processes comes from the importance of developing publications that enable managers to know what actions will lead them to the outcomes they expect depending on the circumstances in which they find themselves (Christensen & Carlile, 2009).

The theory building process

The theory building process lies in the identification of the causal mechanisms that lead to specific results. The theory building process deployed for this paper is based on the formal definition of theory (Hunt, 1991; Bunge, 1967; Reynolds, 1971) using the empirical research process (Wacker, 1998).

The descriptive stage of the theory building process was developed according to the methodology proposed by Carlile and Christensen (2009) (Figure 3.3).

Figure 3.3. Process of building theory (Carlile and Christensen, 2009).



Source: Own elaboration

Figure 3.3 shows that there are two sides to every lap around the theory-building process: an inductive side (descriptive stage) and a deductive side (normative stage).

Within the descriptive stage researchers have to go through the following steps:

- Observation: During this process, researchers observe phenomena, and describe and measure all the details they perceive. The data extracted from the phenomena analysis often generate abstractions that can be termed "constructs".
- Categorization: This categorization attempts to simplify and organize the information in order to detect relationships between the phenomena and expected outcomes. During this process, researchers can refer to these schemes as either "concepts" or "conceptual frameworks".

- Associations: During this step, researchers analyze the correlation between attributes and the outcomes observed. This gives birth to statements of associations, which can be also called “models” (Turban & Meredith, 1991) (p. 30).

Descriptive Theory Stage

The phase of observation was developed through the careful literature review process explained above. Then, the classification phase consisted of the organization of the results identified during the observation phase into concepts. In the results section, there is the set of concepts that was designed.

Meredith (Meredith, 1993) (p. 5) presents the following approach to defining a concept: “a concept is a bundle of meanings or characteristics associated with certain events, objects, or conditions and used for representation, identification, communication, or understanding”.

During the last phase of the descriptive stage, it was necessary to deploy an analysis of the correlation between attributes and outcomes observed. This gave birth to statements of associations.

3.4 RESULTS

This section shows the results obtained in the development of each stage of the building process of the theory of corporate sustainability (observation, classification, and definition of relationships) and what the relationships are between them.

3.4.1. Observation

In this case, the phase of observation was carried out through a meticulous process of literature review of academic papers, publications from private companies, and reports.

Sustainability has evolved dramatically over the last years. Decades ago, public administrations and governments started to develop environmental legislation that needed to be accomplished by corporations, especially large corporations like companies from oil industry or big pollutants. Then, international organizations created voluntary certificates like ISO 14001 (International Standard Organization) or EMAS (Eco-Management and Audit Scheme). In addition, those corporations that wanted to go one step beyond had the chance to design eco-innovative practices among their business processes. These kinds of practices allowed companies to make products

decreasing the environmental impact or launching new products whose consumption does not harm our planet.

Currently, new business models that place sustainability in their core and purpose are emerging. Hence, those companies try to offer value to customers enhancing a sustainable society.

During the observation phase, it was remarkable to notice that there are numerous ways to tackle sustainability from a business point-of-view and, apparently, all of them lead to better results for companies, such as more turnover, higher number of customers, better customer engagement, or more operational efficiency.

3.4.2. Classification

The analysis of the state of the art showed that there are different types of bodies of literature about sustainability. These fields of research are framed under the area of sustainability because they pursue the improvement of environmental practices through all the areas of the company's value chain.

However, setting boundaries between each body of literature is determined by the researchers' different perspectives on their works to tackle climate change. For instance, the environmental policies and practices suggested by researchers can affect only a specific area of the company or they can be transversal throughout the organization. Some groups of policies can be just focused on reshaping processes whilst others have a holistic approach and transform the relationship between the company and its stakeholders.

There have been some attempts to draw the boundary between different concepts or bodies of knowledge from academic literature, the aim of which is to classify the sustainable practices that companies can implement in their organizations to become more sustainable (Rodrigues & Franco, 2019).

Consequently, those groups of bodies of literature, according to the literature of theory building process, may generate concepts that will lead to further relationships between each other.

In order to offer an accurate classification of the different ways companies can become sustainable, it is necessary to determine the appropriate level of abstraction of each of the concepts, which will allow researchers to classify each type of sustainable action in its concept.

3.4.3 Concepts

According to Jabareen (2009), concepts need to be deconstructed to identify their main attributes, characteristics, assumptions, and role. The bodies of literature detected in the classification phase have clear boundaries with their own attributes and characteristics, so they can be considered "concepts". The following table (Table 3.2) shows the name of the concepts, a description of each concept, a concept categorization according to its ontological, epistemological, or methodological role, and the most important references for each concept.

Table 3.2. Name, description and concept categorization from each sustainability related concept.

Concept	Description	Concept categorization	References
Holistic Sustainability	Policies with a long term vision with a broad perspective that encompasses sustainable actions for reshaping the interaction of the company with its stakeholders.	Ontological concept	Porter & Kramer, 2011; Nidumolu, et al. 2009; Ioannou & Serafeim, 2019
Sustainable Business Models	Business model that creates competitive advantage through superior customer value and contributes to a sustainable development of the company and society.	Epistemological concept	Lüdeke-Freund, 2010; Schaltegger, et al., 2016; Bocken et al., 2014
Sustainable Methodologies	Methodologies and tools designed for managers to improve company's performance and sustainability.	Methodological concept	Joyce & Paquin, 2016; França et al. 2016; Bocken et al. 2013; Rodríguez-Vilá and Bharadwaj 2017
Sustainable Operations	Activities and business process that reduce the environmental impact only focusing on specific areas of the organization (i.e. product development, waste management, eco-innovation, etc.).	Methodological concept	Segarra-Oña, 2012; Cheng, et al. 2014
Sustainability-oriented Innovation	Research field that combines two or more concepts for improving sustainability among corporations.	Methodological concept	Hansen & Große-Dunker (2013) Geradts & Bocken (2019)

Source: Own elaboration.

The creation of these concepts sets boundaries which are essential to decide which areas the company will innovate in and what the scope will be (Bocken, et al. 2010). For instance, sustainable practices classified in the concept of sustainable operations, such as life cycle assessment (LCA), need a clear scope that determines the areas of the company that will be studied in order to calculate the environmental impact (ISO Life Cycle Perspective, 2016).

However, it is harder to identify if some activities are only circumscribed to the concept of sustainable operations or they surpass the boundaries to the concept of sustainable business models. This issue was studied back in 1971 by Habermas and Luhmann (1971), who defended human beings' work to reduce complexity through the implementation of system boundaries. In fact, the design of those boundaries and concept creation are essential stages of the theory building process presented previously.

Holistic Sustainability

The concept of holistic sustainability refers to those works that state that sustainability is another component of companies' strategies. These types of papers or reports conceive sustainability as a transversal topic that should be a part of the corporate culture and all the departments (from operational level to the board of directors).

Since this concept considers sustainability as a part of companies' strategy, it also includes the relationship between the company and its stakeholders. For this reason, literature encompassed in this concept shows practices that strengthen the link between company success and community improvement. In fact, these authors state that companies need to work closely with all the stakeholders in order to achieve superior levels of environmental care.

One of the most prominent authors on holistic sustainability is Michael Porter through his work on shared value (Porter & Kramer, 2011). Other contributors to this concept are Nidumolu, Prahalad, and Rangaswami (2009), who demonstrate how companies that want to become sustainable need to go through five stages, from taking compliance as an opportunity to develop sustainable business models and creating next-practice platforms. Therefore, these authors hold that companies, on their way to becoming environmentally respectful, first need to look into internal aspects and improve their operational effectiveness and to introduce new processes and methodologies. Secondly, once those stages have been overcome, the next stages are to transmit the sustainable culture from the company to stakeholders and the rest of the community.

The work being done by Ioannou and Serafeim (2019) is also remarkable; they are contributing to the elevation of corporate sustainability to a strategic topic that managers need to consider conscientiously. In this case, they are developing their research in several ways. On one side, their

studies determine how ESG ratings and metrics can help investors to analyse companies. On the other side, they are also working to compare the performance between companies from the same sector that are implementing sustainable practices.

Sustainable Business Models

The literature about sustainable business models is abundant and it has become more abundant due to the creation of the business model canvas designed by Osterwalder and Pigneur (2010). In fact, Osterwalder's canvas was adapted by Joyce and Paquin (2016), who created the "triple layered business model canvas" as a tool for turning traditional business models into sustainable business models (which will be explained in the section "Sustainable Methodologies").

Some of the most prominent researchers on sustainable business models have defined this topic as "a business model that creates competitive advantage through superior customer value and contributes to a sustainable development of the company and society" (Lüdeke-Freund, 2010) (p. 23).

Traditionally, companies used to hold profit maximization as their mission and main purpose (Friedman, 1970). For this reason, one of the most important challenges and hurdles that sustainable business models have to deal with is to design an organization able to capture value through delivering social and environmental benefits and increase profits at the same time (Schaltegger , et a., 2012).

Bocken, Short, and Evans (2014) proposed a classification of sustainable business models according to the type of sustainable innovation developed (Table 3.3). These innovations entail:

Table 3.3. Groups of archetypes and examples.

Group	Archetype	Examples
Technology	Maximise material and energy efficiency	Low carbon manufacturing / solutions
	Create value from waste	Circular Economy
	Substitute with renewables and natural processes	Move from non-renewable to renewable energy resources
Social	Deliver functionality rather than ownership	Result oriented - Pay per use
	Adopt a stewardship role	Biodiversity protection
	Encourage sufficiency	Product longevity
Organisational	Repurpose for society / environment	Not for profit
	Develop scale up solutions	Crowd sourcing / funding

Source: Bocken, Short, and Evans (2014).

Archetypes included in the technological group are those based on manufacturing processes, redesign, etc. The social archetypes include innovations based on consumer behaviour or consumer offering. Organizational archetypes are innovations focused on changing the fiduciary responsibility of companies.

In addition, there is a simpler classification that divides sustainable business models into four categories (Technical Secretary of the Eco-innovation Laboratory, 2016). This classification is based on the revenue streams of the company and the way that costumers deal with products and services:

- Circular economy: Seeks to replace linear production-consumption systems for circular systems reducing, reusing, recycling, and recovering materials (Kirchherr , et al., 2017; Korhonen, et al., 2018).
- Sustainable production: Creation of goods and services using processes and systems that are non-polluting; conserving of energy and natural resources; economically viable; safe and healthful for employees, communities, and consumers; and socially and creatively rewarding for all working people (Lowell Center for Sustainable Production. Sustainable Production, 1998).
- Servitization: Process of shifting from a product-oriented business to a service-oriented business (Kowalkowski, et al, 2017).
- Sustainable consumption: This is a decision-making process from the consumer's point of view that involves the consumption of products and services taking into account their needs and also the social and environmental impact of their decisions (Meulenberg, 2003).

Sustainable Methodologies

The concept of sustainable methodologies encompasses not only methodologies but also the certificates and tools that managers use to implement sustainability in their companies. On one hand, this concept includes those methodologies and tools that affect several areas of the business and their objective is the integration of sustainability in the business model. On the other hand, those techniques that can only be applied in a single unit of business will be classified under the concept of sustainable operations.

Nonetheless, even in the strategic and entrepreneurial field, there are several methodologies widely accepted by entrepreneurs, consultants, researchers, and company owners (i.e., business model canvas, value chain or Porter's five forces). However, there are still no methodologies regarding the sustainability field that are well-known by experts.

Some of the benefits of the sustainable methodologies are that they offer a guide with the steps that need to be accomplished by managers and they can give rise to decisions that need to be made by board members.

Some of the sustainable methodologies that are included in this concept are:

- Sustainable business model canvas: Variation of the business model canvas (Osterwalder & Pigneur, 2010) that adds new layers in addition to the original. New layers are based on sustainable and social attributes for developing sustainable innovation programs and sustainable business models (Joyce & Paquin, 2016).
- Framework for strategic sustainable development: This methodology has several intervention areas for embracing sustainability. It is necessary to perform an analysis of some of the business areas (i.e., value chain) to establish a new mission and vision, and develop actions and tools that will help to achieve the new sustainable objectives (França, et al, 2016).
- RESTART: These authors designed a framework to help managers turn their companies into sustainable business models. RESTART categorized three groups of categories of features that, according to authors, are easily found among sustainable business models. These features are redesign, experimentation, service-logic, circular economy, alliances, results, and three-dimensionality (Jørgensen, & Pedersen, 2018).

In addition, this concept also includes the methodologies deployed to monitor the integration of sustainability within the company. For instance, the GRI (global reporting initiative) would be an example of methodology that fits with the definition of the concept of sustainable methodologies (GRI is a well-known procedure to standardize the way that companies deploy sustainable practices and the expected outcomes they try to achieve (GRI, 2019).

Additionally, there is a certain body of literature that identifies the sources of sustainable value creation. Sustainable value is defined as the generation of value through social and environmental improvements addressed to the company's stakeholders (Bocken, et al., 2013).

The most common tool used by entrepreneurs, consultants, and company owners in order to unravel the way organizations can create value for a long term is Porter's well-known "value chain" (Porter, 1985). According to him, organizations can create value in the following ways:

- Reducing costs for customers (not only monetary costs, but also reducing waste production, reducing labor time, reduction of required resources, reduction of maintenance, risk failure reduction, reduction of the time required for doing the job, etc.).
- Improving the customer's performance.
- Increasing the value chain singularity.

Currently, no methodology for analyzing sustainable value creation is as widely accepted as Porter's value chain. However, some authors have created methodologies for generating value through the value network of a sustainable business model.

- Shareholder-value framework: Model built using two dimensions that create tension for companies. One dimension reflects the timeline for executing actions (short- or long-term actions) and the other dimension reflects the need to grow from an internal and external perspective. Therefore, depending on those dimensions, the sustainable value creation will be deployed across different types of drivers (Hart, S.; Milstein, 2003).
- Value mapping tool: This methodology is focused on shifting the value proposition of companies to a sustainable value proposition. Therefore, it identifies sources of value creation for customers, society, environment, and the rest of the stakeholders (Bocken, et al., 2013).

Sustainable Operations

The concept of sustainable operations refers to those actions and practices that are circumscribed to a specific business unit (i.e., production, logistics, etc.). Unlike the concept of holistic sustainability, the implementation of sustainable operations does not need a transversal intervention from the board members, middle managers, and employees. In fact, research on sustainable operations is focused on improving the sustainability of certain processes of the company. This concept includes papers and reports about these groups of actions:

- Green certificates (e.g., ISO 14001, EMAS, or BREEAM—Building Research Establishment Environmental Assessment Methodology).
- Analytic tools (e.g., life cycle analysis, sustainable supply chain management).
- Eco-innovative practices (e.g., energy efficiency practices, lighting the packaging, using electric vehicles instead of combustion engines, etc.).

In these cases, companies that implement this kind of action (i.e., developing a life cycle analysis) do not shift their strategic plan. The basis of competition for that company remains intact: the strategy of cost or differentiation will not be changed, the company's value chain will be modified in just a few areas, board members will not need to lead a dramatic change for employees, etc.

In addition, one of the largest fields of research which is embedded in the sustainable operations concept is the study of eco-innovation.

Although there are several ways to define eco-innovation, it can be defined as innovation on products, processes, services, management, or business models that leads to an improvement of

the economic and environmental performance. The improvement of the environmental performance comes from a reduction of pollution, environmental risks, and other negative impacts of used resources compared to the alternatives (Rene, 2010; Rennings, 2000).

Two types of eco-innovation have been classified: external and internal eco-innovation (Cheng, et al., 2014). On one hand, internal eco-innovation considers the practices and processes that are developed within the company to manage the eco-innovation processes in an effective way. On the other hand, external eco-innovation includes the sustainable activities that involve the relationship between the company and its stakeholders (e.g., suppliers, regulators, etc.). Moreover, depending on the field of action of each eco-innovative practice, it can be classified as:

- Eco-process innovation: Modification of the operational processes and systems of the company which leads to a reduction of the environmental impact (Negny, 2012).
- Eco-product innovation: Reduction of the environmental impacts generated during all the phases of the life cycle of the product (Carrillo-Hermosilla , et al., 2010).
- Eco-organizational innovation: Administrative efforts that will help the eco-process and eco-product innovation to arise more gently from the departments involved in these tasks (Barin Cruz , 2006).

Eco-innovation is based on numerous methods that help companies to integrate sustainability among different business areas. Managers need to deal with high levels of uncertainty and complexity for keeping the companies' performance. Therefore, these techniques give managers guidance on how to focus their efforts to achieve their goals regarding the reduction of the companies' environmental impact (Restrepo, et al., 2005). However, the implementation of these techniques is not enough to turn a traditional company into a sustainable company. Eco-innovative practice implementation involves a managerial issue that needs to be handled taking into account the corporate strategy from a broad point of view (Xavier, et al., 2017).

3.4.4. Definition of Relationships

During the third step of the theory building process, the concepts presented above were examined with the purpose of finding relationship between them. Thereupon, it was necessary to measure the impact of implementing actions that are encompassed in different concepts in order to know if that combination of actions leads to better results.

There is a line of research called "sustainability-oriented innovation" that has already observed the relationship between different sustainable practices implemented in firms and measuring its impact.

Sustainability-Oriented Innovation

Sustainability-oriented innovation can be defined as an innovation practice that can take different forms, such as the creation of new business models or the modification of business processes that will benefit the environment and society (Kiron, et al., 2017; Geradts & Bocken, 2019). Papers on sustainability-oriented innovation are based on a combination of practices, which could be classified in the sustainable concepts presented above. These papers study the impact of the implementation of these activities.

The range of sustainable practices analyzed by researchers vary from works that only focus on a few concepts (Tilman & Anna, 2012) to other works that include several concepts in their research and unravel interactions between them and the future expected outcomes (Kiron, et al., 2017; Geradts & Bocken, 2019; Tilman & Anna, 2012; Schaltegger & Wagner, 2011; Hansen, et al., 2009).

One of the most important contributions to this field was the work done by Adams et al. (2016). These authors created a framework which explains what kind of strategy, processes, learning activities, and linkages must be developed to achieve an operational optimization, organization transformation, and system buildings.

Thus, from the point of view of the theory building process, research about sustainability is moving forward toward the next stages of the theory building process. However, the boundaries and scope of this field are still diffused. According to Ulrich (2003), complex interactions where setting boundaries might be difficult need continuous work, which implies that these boundaries could be redrawn. For this reason, sustainability-oriented innovation cannot be considered a concept in the same way as the concepts presented above. Sustainability-oriented innovation, following the work of Flood (2002), presents an approach where corporations and stakeholders define their own boundaries depending on the factors they take into account. Therefore, this approach will assist in the process of the sustainability integration among organizations through the inclusion of practices classified in different sustainable concepts depending on the value creation process and interactions with stakeholders.

In the context of business models, those companies that want to deliver value through sustainability need to develop plans that will need interaction from other stakeholders. Companies cannot become sustainable dealing as an isolated entity (Boons & Bocken, 2018). For this reason, corporate sustainability needs to be understood from a broad perspective (Bocken, et al., 2019).

3.5 DISCUSSION

The capability of linking those sustainable concepts with the concepts of strategy and operational effectiveness developed by Porter (1985) is remarkable. Thus, practices embedded in holistic sustainability, sustainable business models, and the literature about sustainable-oriented innovation should be classified as strategic issues, because of their attempt to achieve a perdurable competitive advantage in differentiating the company from its competitors. According to Porter, organizations that hold competitive advantage are able to perform different activities from competitors or develop similar activities as those of rivals in different ways (Porter, 1985).

In addition, sustainable methodologies and sustainable operations are concepts that will fit in the concept of operational effectiveness because these kinds of actions allow companies to deploy a myriad of business processes (production, marketing, delivering, and so on) in a faster way or using fewer resources than rivals.

From a managerial point of view, sustainability should not be siloed or regarded as a department with clear boundaries and tasks. The effect of eco-innovative processes or environmental certificates may report results in the short-term. However, in order to tackle the basis of competition, it is necessary to integrate sustainability within the business model because consumers consider sustainability another performance attribute of the product or service (Winston & Esty, 2006; Porter & van der Linde, 1995).

The state of the art on sustainability shown above has generated a deep understanding of how environmental practices transform companies. There are clear hints in the literature that establish causal mechanisms between the implementation of sustainable practices among companies and its performance improvement (Ioannis & Serafeim, 2019).

However, the results expected by managers will be different depending on the sustainable practice implemented. For instance, corporate social responsibility initiatives increase operational effectiveness within the company and economic context. Consequently, managing sustainability this way ignores the depth of the corporate sustainable field and it does not place sustainability at an appropriate level in a strategic decision (Lüdeke-Freund, et al., 2019).

Making decisions about sustainability as a silo without taking into account the strategic decisions made by board members is an example of the separation fallacy (Freeman, 1994; Harris & Freeman, 2008; Sen, 1987). Separation fallacy is the belief that business decisions should be made independently from broader ethical concerns, such as the environment and social issues. This is the reason management areas like finance and accountability are treated independently from sustainability. In fact, as Ioannis and Hawn state (Ioannis & Hawn, 2019), it has not been possible to successfully integrate environmental issues into strategy.

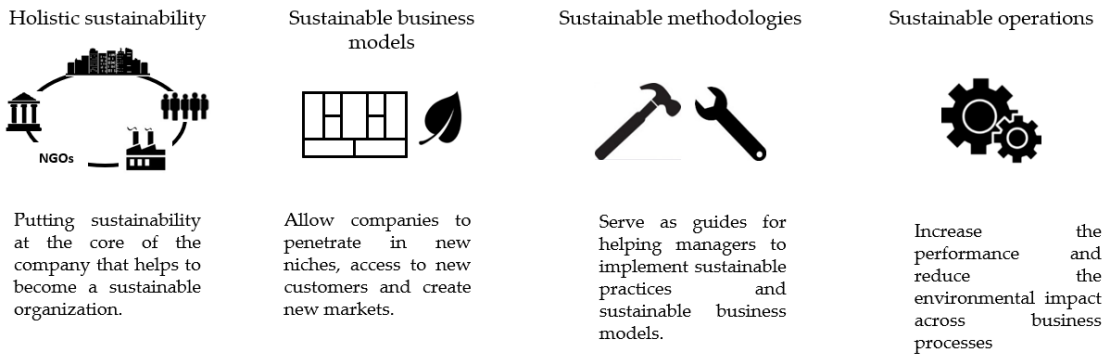
One example of the importance of positioning sustainability as a strategic element for managers comes from the research done by Ioannis and Serafeim (2019), who state that companies that implement unique sustainable practices are more likely to differentiate themselves from their competitors and report more benefits. However, those companies that adopt 'common': practices are more likely to be associated to companies that try to survive instead of outperforming. Another conclusion that emerged is that organizations that led the adoption of sustainable practices in its market niche and were able to remain leaders through the adoption of unique sustainable practices achieve higher levels of performance, since these companies have built barriers to imitation and gained a good position in their client base hard to copy by competitors.

Research about the theory building process in social sciences holds that the third step consists of defining relationships, so, the concepts presented above may have relationships and even synergies among companies when implemented in a combined way.

Additionally, sustainable practices included in various concepts cannot be implemented separately if managers are looking to achieve both a sustainable and a profitable company (Ioannis & Serafeim, 2019). Hence, to turn a traditional company into a sustainable one, it is necessary to embed sustainability through a holistic point of view which should enhance executives to boost a cultural shift among employees. It is then necessary to reshape its business models in a deep way to deliver superior value to customers improving the environmental and social impact. In order to transform a traditional business model into a sustainable business model, it is necessary to use sustainable methodologies and redefine processes which could be accompanied by sustainable-oriented innovation policies. Therefore, the element that will help the new company perform and achieve better results will be a sustainable design of the operations carried out in the company.

Consequently, the actions included in each of the concepts presented above will lead the company to obtain different types of results (Figure 3.4).

Figure 3.4. Diagram that shows a brief description of the results that managers can expect after the implementation of activities fitted in each sustainable concept.



Source: Own elaboration

Only the combination of activities provided from different sustainable concepts will lead organizations to turn their traditional business into a sustainable company, capable of surpassing their competitors, targeting new customers, penetrating new markets and launching new products and services. Turning a traditional business into a sustainable one is a hard job and a challenge for managers and consultants. Although sustainable methodologies are helpful tools in overcoming that challenge, people responsible for leading this change need to have a framework that allows them to shift the strategy of the business, the business model of the company, and the whole range of processes carried out across the organization.

Integrating sustainability through those concepts into the strategy and operations of a company is a long-term proposition. An adequate sustainable strategy will align the activities and operations of the organization sharing a sustainable culture that will lead to an improvement in economic performance. The longer the firm chases value creation through sustainability, the more it will learn about meeting customer and social needs in a profitable way and the better it will integrate new sustainable operations, methodologies, and even business models into every area of the company (Porter, et al., 2019).

3.6 CONCLUSIONS

This research aims to contribute to the development of sustainability through the classification of different bodies of literature and the development of a theory of corporate sustainability. Firstly, a careful and deep review about sustainability was carried out, which led to the classification of the concepts of “holistic sustainability”, “sustainable business models”, “sustainable methodologies”, and” sustainable operations”.

Secondly, the phase of relationship definition has been analyzed through the review of the literature on the line of the research called “sustainability-oriented innovation”, since these works focused on the study of the results generated in companies that implement activities encompassed in different concepts.

Finally, there is a need to enhance sustainability as a strategic topic for those companies that are heading towards becoming sustainable. Currently, companies that want to reshape their business model need to modify numerous aspects: from the company’s culture to the most basic business process and they will need support from the board member to the operators. Therefore, only the proper combination of concepts will lead companies to better performance and more satisfying results.

3.6.1. Future Research

This paper has focused only on the descriptive stage of the theory building process for the theory of corporate sustainability. We encourage the scientific community to improve this process, look for anomalies, and move forward to the normative stage.

The development of the theory of corporate sustainability seeks to determine what actions will lead to the expected outcomes depending on the circumstances in which the company is through the development of the normative theory.

The transition from descriptive to normative theory will require researchers to deploy field work to generate statements of correlation that will define what causes the result or outcome of interest. This requires researchers to observe specific actions and they will expect specific outcomes that they have observed in the previous phase of observation from the descriptive stage. In case those outcomes do not happen, researchers will have found an anomaly, which means an opportunity to improve the theory.

Anomalies

During the review of this work by other researchers, anomalies can be found in this early theory development. An anomaly happens when theory is not able to explain a specific outcome. Most researchers consider anomalies as weak points of their theories and they decide to hide them. However, anomalies are opportunities to improve the theory (Christensen & Carlile, 2009).

We encourage researchers to improve the classification of concepts presented above, to look for anomalies, and also, to move to the prescriptive stage of the theory of corporate sustainability building process in order to start the transition from descriptive theory to normative theory.

Author Contributions

Conceptualization, J.S.-P. and M.S.-O.; methodology, J.S.-P.; validation, M.S.-O., A.P.-S.; formal analysis, J.S.-P.; investigation, J.S.-P.; resources, M.S.-O.; data curation, A.P.-S.; writing—original draft preparation, J.S.-P.; writing—review and editing, M.S.-O. and A.P.-S.; supervision, M.S.-O. funding acquisition, M.S.-O. and A.P.-S. All authors have read and agreed to the published version of the manuscript.

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Data Availability Statement

No new data were created or analyse in this study. Data sharing is not applicable to this article.

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Conflicts of Interest

The authors declare no conflict of interest.

Appendix A

The field of sustainability is expanding quickly. For the literature review process, we also took into account the list of organizations below. These publish works that show a high expertise and deep knowledge in this field:

- McKinsey & Co
- Accenture
- Ellen MacArthur Foundation
- Boston Consulting Group
- Laboratorio de Eco-innovación
- Sustainable Business Models Blog
- Sustainability an ERM Group Company

Appendix B

List of references classified according to the sustainable concepts.

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CAPÍTULO 4

CASE STUDY PROTOCOL FOR THE ANALYSIS OF SUSTAINABLE BUSINESS MODELS

Case Study Protocol For The Analysis Of Sustainable Business Models

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ABSTRACT

This paper is encompassed in the process of the development of a theory about sustainability. Our aim is to present a case study protocol for performing multiple-case studies about corporate sustainability. It has been designed according to the methodology about case study research. It includes a combination of frameworks that will help researchers to draw and understand how sustainability is integrated through the value chain of the company and it also has a set of questions that will help to know the environmental practices that the target company deploys from a strategic point of view to the most common operations. Finally, once all the information has been retrieved, it will be possible to identify the way that value generated by sustainability practices flows through the company's activities and the way customers perceive it.

Keywords*: sustainability; holistic sustainability; sustainable business models; theory building process; literature review; eco-innovation; sustainable operations; sustainable methodologies; sustainability-oriented innovation.*

4.1 INTRODUCTION

During the last years, a growing number of companies around the world have implemented different environmental practices due to the consumers behaviour's changes, stakeholders' pressures and ESG requirements. Companies adopt those practices on different areas and levels of their companies: into their strategy, business model and processes (Eccles et al., 2014, Segarra-Oña et al., 2016). Furthermore, the progressive rate of adoptions of these practices amongst existing companies and the generation of new sustainable business models has led academics to focus their efforts on finding out which practices can lead to a performance improvement for companies (Ioannou & Serafeim, 2019).

The increasing concern about sustainable development has motivated the creation of a large body of research called corporate sustainability that only during 2019 lead to the publication of 3.338 research papers (from Web of Science records). Although those publications have the corporate sustainability topic in common, they are focused on several different units of analysis. For this reason, and heading the same way as research in management, we have considered necessary to review this type of literature in order to identify which are the best practices or combination of practices that work as causal mechanisms to generate improvement for the companies that implement them. Therefore, we are working on a project with the aim to create a Theory of Sustainability according to the theory building process proposed by Carlile & Christensen (2005) (see table 4.1).

Table 4.1. Phases of the process of building a descriptive theory.

Descriptive Theory		
Phase 1	Phase 2	Phase 3
Observation and description of the phenomena (creation of 'constructs')	Attributes categorization of the phenomena	Statements of correlation between categories

Source: Adapted from Carlile & Christensen (2005).

According to these authors, the development of a theory about sustainability needs to carry out a careful review of the phenomena through the literature review, but also examining outcomes extracted from corporations via a case-study procedure.

Several authors (Yin, 1994; Johnson et al., 1999, Hillebrand et al., 2001 & Myers, 2013) state that case study research is an appropriate methodology to identify the existence or absence of phenomenon under specific conditions, especially for matters related with social sciences (table 4.2).

Hence, the aim of this chapter is to provide academics with a case study protocol embedded into the case study research about the Theory of Sustainability which will allow them to gather data about the implementation of sustainability among corporations and its outcomes.

According to Johnson et al. (1999) case research studies are suitable for testing theory in social sciences whether replace statistical correlations with logical argumentation. So the logical argumentation plays an essential role for supporting causal relationships for the application of the theoretical generalisation in order to expect outcomes on those cases or companies with similar structure.

Table 4.2. Steps of the research process that frames the elaboration of this case study protocol.

Research process					
Step 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6
Observation based on literature review.	Construction of concepts about knowledge bodies about corporate sustainability.	Draft of the Sustainable Theory based on the concepts identified that will be in a descriptive stage.	Creation of a case study protocol for retrieving data from companies about the integration of sustainability in the organization.	Identification of associations between concepts through the application of the case study protocol in sustainable companies and literature review.	Transition from a transition stage to normative stage of the sustainable theory.

Source: Own elaboration.

4.1.1 Building a Sustainability Theory.

The Sustainability Theory has the aim to prove the following hypothesis:

The companies that develop specific sustainable practices, which target certain areas of the business, can get better results in terms of turnover, profitability and/or performance.

The observation process through a careful review of the literature has led to the identification of four bodies of knowledge about the type of research about on corporate sustainability and its implications in corporations that have been named in the following concepts (table 4.3):

Table 4.3. Definition of the concepts of the Sustainability Theory.

Concept	Description
Holistic Sustainability (Porter & Kramer, 2011; Nidumolu, et al. 2009; Ioannou & Serafeim, 2019)	Policies with a long-term vision and a broad perspective that encompasses sustainable actions for reshaping the interaction of the company with its stakeholders.
Sustainable Business Models (Lüdeke-Freund, 2010; Schaltegger, et al., 2016; Bocken et al., 2014)	Business model that creates competitive advantage through superior customer value and contributes to a sustainable development of the company and society.
Sustainable Methodologies (Joyce & Paquin, 2016; França et al. 2016; Bocken et al. 2013; Rodríguez-Vilá and Bharadwaj 2017).)	Methodologies and tools designed for managers to improve the company's performance and sustainability.
Sustainable Operations (Segarra-Oña, 2012; Cheng, et al. 2014)	Activities and business processes that reduce the environmental impact that only involve specific areas of the organisation (i.e. product development, waste management, eco-innovation, etc.).

Source: Own elaboration based on the academic literature.

This concepts' clarification is a useful framework for developing a case study protocol as they allow researchers to envisage the companies from a broad point of view (holistic sustainability) to an operational level detail (sustainable operations). In addition, taking into account those concepts during the case study process makes it easier to keep a flow of questions in order to get all the relevant data from the interviewee. Therefore, with the aim of moving forward with the Theory of Sustainability, and once the observation process is finished (it has been deployed through a literature review), the next stage of the theory building process will consist in the identification of correlations between concepts and outcomes (Carlile & Christensen, 2005), which will eventually lead to the conclusion of the stage of building a descriptive theory.

The process of correlations' identification will be developed based on a combination of literature review of papers about sustainable-oriented innovation and business case studies. The end of that stage will allow us to advance to the prescriptive phase, which will be specifically focused on analysing the causal mechanism inductor of the result.

The hypothesis states that there are groups of environmental practices that can be gathered according to their characteristics and the proper combination of them at different levels of the organisations can lead to better results. On one hand, the unit of analysis of this research extends

to those private organisations that have implemented sustainable practices in a successful way, so they are regarded as environmentally friendly companies by prestigious independent organisations. On the other hand, this protocol has been designed for developing a multiple-case study.

4.2 METHODOLOGY

This case study protocol has been designed according to the guidelines stated by Yin (2003) and it has been deployed a literature review of other case study protocols throughout the selection of the next keywords and data strings: protocol case research, case study research and sustainability in Web of Science or Scopus.

In addition, a deep comprehension of the integration of sustainability among the business model needs researchers to know what the company offers to the market and how the activities and strategy are executed for offering value to its customers (Esty & Winston, 2006). Therefore, another literature review has been deployed for retrieving those frameworks used in the field of management that can help to know how sustainable practices create value through the value chain. The keywords selected for this research were: business framework, canvas, value chain and analysis tool.

Then, the techniques incorporated in this protocol had to match the following criteria:

- Should be widely used in the management field for facilitating its used by researchers with different backgrounds and experience.
- These techniques should offer enough broadness to reflect the sustainable practices carried out by the companies that were selected for the study.

There is a discussion between defenders of that just one case is enough to achieve a theoretical generalisation through a logical argumentation (Yin, 2013) between those that state that replications will increase the reliability of the research and its results (Hillebrand et al., 2001). For this theory building process we have assumed to replicate this process through this case study protocol in several firms of the following types of businesses in order to cases be considered structurally similar valid:

- B2B business.
- B2C business.
- Product sellers.

- Services sellers.

4.2.1 Case study protocol

Yin (1993) defends the use of a case study protocol for establishing the criteria of the data collection. The protocol designed for this purpose combines two main sources of data: interviews with a variety of informants and the use of documentation.

Interviews play an essential role for the case study protocol because they are the main source of qualitative data in the field (Walsham, 2006). Interviews will be semi-structured, open-ended questionnaires and documentations will need to be scrutinised in order to avoid a desired image projected by the company. The combinations of these techniques will allow the triangulation that confers reliability to the study.

However, before kicking off each interview, researchers will need to retrieve information about the company and also about its market niche or sector. Following Porter's (1985) guidelines, in order to analyse a company researchers need to analyse the sector where the company competes and the competitive positioning of the company.

The following sections show the process of design of this case study protocol, which includes the interview's content and also the frameworks that will help researchers to gather information and structure the amount of data obtained during the fieldwork. Once the fieldwork is finished, data retrieved from the study cases will be analysed individually and a cross-case analysis will be conducted to highlight differences and similarities between cases through the triangulation methodology (Steckler, et al., 1992, Patton, 1990).

4.2.2 Case study protocol design

According to Yin (2003), a case study protocol should include an overview of the project that frames the protocol, field procedures, case study questions and a guide for the case study report. Once the company has been assigned, the researcher needs to look for information and data about the company. Drawing the business model canvas (Osterwalder & Pigneur, 2010) and Porter's value chain (Porter, 1985) will be useful tools for helping the researcher to learn what kind of business the company is and its market, which will also help to address better questions during the interview. Then, the Porter's theory of Shared Value (2011) will show how the company creates value through its sustainable practices. In table 4.4 there is a summary with the needed information.

Table 4.4. Information of the company that needs to be retrieved by the researcher before the interview.

Business model		Value chain	
How the companies do business and what its value proposition is.		Analysis of the degree of integration of sustainability in each activity of the company and the interrelation between activities	
Revenue model	Cost structure	Primary activities	Support activities
Target customers of the company, how it establishes relationships with them and its revenue streams	Main resources and activities needed to offer the value proposition to customers and their costs	Sustainable practices implemented in the logistics, production and how they are exposed through marketing and sales department.	Degree of awareness about environment by the executives and rest of the staff. Research programs that promote sustainability and purchasing based on sustainable premises

Shared Value	
Level of alignment between the way the company offers products / services and its relationship between the stakeholders	
Internal	External
Products and services offered to customers and practices focused on an efficient use of resources	Channels for delivering products and services to customers and the relationship of the company with regional businesses, clusters, regulatory environment and institutions.

Source: Adapted from Osterwalder & Pigneur (2010), Porter (1985) and Porter & Kramer (2011).

4.2.3 Interview's content

Case study questions have been designed as open-ended questions through a semi structured interview.

The content of the interview designed via this case study protocol has been designed after the analysis of sustainable methodologies showed in the next sections and concepts from the Theory of Sustainability presented above.

Nowadays, sustainability is a transversal idea that influences all the levels of organisations (Porter & Kramer, 2014; Ioannou & Serafeim, 2019), therefore researchers deploying a case study about

sustainability need to understand all the interactions of the company between stakeholders, its strategic and organisational structure and the relationship between its employees.

For this reason, and according to the concepts about the Theory of Sustainability, the content of the interview of this protocol asks questions in order to get information in a holistic way about the presence of sustainability among the activities developed by the company.

The structure of the interview has two kinds of ways to retrieve information:

- A set of questions that include the source of that information and some tips for helping researchers to obtain the data.
- Sustainable methodologies which are frameworks that can extract data from the company filling the required fields by the researcher.

The set of questions (see the Annex) have come out as outcomes from the concepts presented above. There are questions designed for understanding how the company deals with sustainable policies from a holistic point of view (stakeholders' relationships, strategic plan or decision-making process). Another group of questions aims to figure out the type and the main points of the sustainable business model (if the company can be considered as a sustainable business model as a whole or if only certain departments of it are sustainable). Additionally, other bunch of questions uncover the level of environmental awareness of the business processes. Lastly, there are questions that seek to know if managers and employees have used any methodology for implementing sustainable practices.

Furthermore, the sustainable methodologies that need to be used for completing this protocol are based on frameworks that should be filled by the researcher with the late interviewee's validation.

Holistic Sustainability

The first part of the interview seeks to understand the strategy and the purpose of the interviewee's company. It is necessary to know what motivated board members to adopt sustainable practices and if the company can be considered as a purpose-driven company. Then, once the strategy and purpose have been defined, the researcher needs to know how executives include environmental criteria on their daily decision-making process in order to know if the mission, vision and objectives are coherent with the strategy execution. Should there be a gap between the company's statement and its execution, this needs to be pointed out in the protocol.

Other reasons that determine the adoption of sustainable practices by companies have to do with the market they compete in. So, this protocol also takes in account aspects from the Stakeholders'

Theory (Freeman, 1984) and the level of convergence of sustainable practices of market competitors (Ioannou & Serafeim, 2019) with the aim of identifying if the basis of the competition of the market are being modified because of the development of sustainable practices.

Sustainable business model

Companies can turn their business into a sustainable business model or even create sustainable business models within the company as a new business line (Schaltegger, et al., 2016). The questions of this are focused to examine if the company under study can be considered as a truly sustainable business model or if some of its areas are developing sustainable practices, even they if they operate as silos.

Sustainable business models can be classified according to the following list (Technical Secretary of the Eco-innovation Laboratory, 2016):

- Circular economy.
- Sustainable production.
- Servitization.
- Sustainable consumption.

The strategy deployed by the company will determine the definition of the business model and the resource allocation process. Hence, the strategy and business model of the company will determine which products can be launched to the market and what kind of market niches satisfy (Christensen & Johnson, 2009). During this step of the protocol, the researcher has to understand how the company is able to offer a superior value to customers by improving the society (Schaltegger, el al. 2016). So, if the channels developed for delivering products and services to the customers have sustainable attributes, these need to be examined. In addition, the process in which sustainable practices and values are communicated to employees, customers and stakeholders needs to be recorded.

Finally, in order to know how the company deals with its supply chain and providers, questions about the green certificates or other measures related to the company's partners and providers will be required.

Sustainable Operations

The concept of sustainable operations refers to those activities with a specific scope that are not transversal to several departments. Usually these are activities that reduce the environmental impact caused by logistics, production and supply chain management.

In the field of Management there are methodologies that are used for the identification of the activities that take part in the business model. One of the most used frameworks for analysing companies for the last years has been the business model canvas (Osterwalder & Pigneur, 2010). Nonetheless, Joyce and Paquin (2016) adapted the business model canvas adding two more layers with the aim to explore sustainable-oriented innovation activities among the business model. The first layer explores the environmental life cycle and the second layer shows the social stakeholder relationships of the organisation (Chairul, 2019).

Another framework widely used on the field of Management is the value chain designed by Porter (1985). The theory of shared value has become a well-known strategy (2013) associated to corporate sustainability and sustainable development. Porter's value chain can be a useful methodology in order to identify how companies can create value through sustainability. Therefore, identifying in the value chain the activities with a sustainable component and their relationship between others can show us the sources of sustainable value generation. Therefore, the analysis of these frameworks has led to the generation of questions about the activities, processes and operations carried out by sustainable companies.

Moreover, Sustainable Operations also refers to the activities that reduce the environmental impact of the supply chain management and the development of eco-innovative products.

Sustainable methodologies

Another body of knowledge identified during the study has been the generation, test and improvement of methodologies to help managers to adopt sustainable practices or turn traditional business models into sustainable business models (Sánchez-Planelles & Segarra-Oña, 2019). This concept includes methodologies widely accepted like the Life Cycle Assessment (Guinee, 2002) and methodologies or frameworks like the previously exposed 'Triple Layered Canvas' exposed above (Joyce and Paquin, 2016). In addition, it is necessary to know if the company has implemented any green certificate (e.g. ISO 14001, EMAS or ecologic labels).

Corporate Sustainability Stages

Environmental practices carried out by companies have evolved during last years and can be grouped according to their similarities (Segarra-Oña et al., 2012). The sustainable strategies' evolution is represented in the table 4.5. During last decades, companies have dealt with environmental protection in different ways. Some decades ago, Public Administration established environmental requirements that companies had to accomplish and currently there are companies launching sustainable business models or even creating new business platforms. So, the evolution of the corporate sustainability can be classified in four stages according to the environmental policies deployed by companies (Nidumolu, et al., 2009; Sanchez-Planelles & Segarra-Oña, 2019):

Table 4.5. Evolution of corporate sustainability.

Evolution of corporate sustainability				
Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Taking advantage of compliance opportunities.	Developing a sustainable value chain.	Implementing eco-innovative practices.	Generating sustainable business models	Creation of new business platforms

Source: Adapted from Nidumolu (2009) and Sánchez-Planelles & Segarra-Oña (2019).

This classification might be used as a roadmap to suggest the following steps that should be adopted by managers of the company studied. Existing companies can also launch new business units based on the sustainable business models principles or even transform its business into a sustainable business model.

4.3 DATA ANALYSIS AND RESULTS

The data obtained from interviews needs to be examined using the content analysis technique for drawing realistic conclusions.

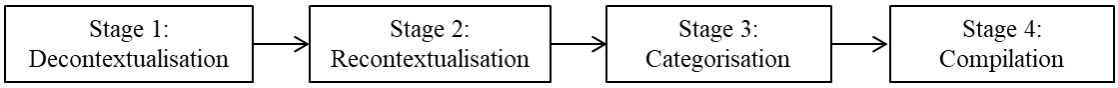
Krippendorff (2004) defined content analysis as "a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use" (p.18). Downe-Wambolt (1992) underlines that content analysis is more than a counting process, as the goal is to link the results to their context or to the environment in which they were produced: "Content analysis is a research method that provides a systematic and objective means to make

valid inferences from verbal, visual, or written data in order to describe and quantify specific phenomena" (p. 314).

Then, methodology moves forward through the following steps (figure 4.1):

- Decontextualisation: The data from the interviews needs to be broken down in 'meaning units'. A meaning unit is the smallest unit that contains some of the insights required to perform the research. Each identified meaning unit is labelled with a code, which should be understood in relation to the context.
- Recontextualisation: After the meaning units have been identified, it will be checked if all the aspects of the content have been covered in relation to the aim.
- Categorisation: Extended units will be condensed. Then, themes and categories will be identified. Categories must be rooted in the data from which they arise.
- Compilation: During this phase the essence of the studied phenomenon will be found. The results will be presented as a summary of themes, categories / sub-themes and sub-categories / sub-headings.
-

Figure 4.1. An overview of the five stages of the process of a qualitative content analysis.



Source: Bengtsson, 2016

At the end of those phases, the new findings will need to be checked in order to know how they correspond to the literature and identify if there is any issue.

4.4 EMPIRICAL APPLICATION OF THE CASE STUDY PROTOCOL IN A GROCERY RETAILING COMPANY.

The first test of this Case Study Protocol for the development of the Sustainability Theory has been deployed in a Spanish grocery retailing company based in Valencia (Spain) called Consum[2].

Consum is a firm organized as a cooperative. It was founded in 1975 and it has been growing steadily reaching 755 supermarkets (447 owned by Consum and 283 franchised). Its turnover was 2.935,6 million of euros and employed 16.031 people in 2019. During the research process, all

[2] https://www.consum.es/

the sustainability memories published by the company were analysed (from 2007 to 2018), it was retrieved information from the website and also from press notes that have been released in national and regional mass media. The interview was performed with a member of the Corporate Social Responsibility member on 27th, March and took 51 minutes.

The following table shows the information about the sustainable practices developed by Consum according to the data structure proposed by this case study protocol (table 4.6).

Table 4.6. Information about sustainable practices developed by Consum according to the case study protocol structure.

INFORMATION PREVIOUS TO THE INTERVIEW					
Business model		Value chain		Shared Value	
Chain of supermarkets that offers a wide range of local products, specially promoting fresh products, leading this market niche.		The key activities of Consum are the transportation of the products from suppliers to supermarkets via logistics centres, the chain of supermarket and its advertisement activities.		Consum has deployed sustainable practices from an internal point of view (e.g. reducing environmental impact generated by its operations) and from an external point of view (e.g. selling ecologic products).	
Revenue model	Cost structure	Primary activities	Support activities	Internal	External
· Incomes generated by customers' purchases in supermarkets. · Customers interact with Consum through supermarkets' employees and social networks. · Main channels based on goods transportations to supermarkets and home shopping.	· Costs come from goods acquisition, supermarket maintenance and labour costs. · Logistics plays a key role in order to optimize delivery and transportation of products in order to save costs. · Assets like supermarkets, logistics centres and vehicles.	· Consum reduces the environmental impact applying sustainable practices in the logistics activities (goods transportation) and implementing energy efficiency activities in supermarkets. · Consum has a program for recovering waste generated in the logistics flows.	· There is a ESG department that establishes objectives for being matched by the managers based on the materiality index. · ESG department works for offering ecologic products, increasing the employees awareness about environment and establishing relationship with stakeholders based on sustainable concerns.	Consum has focused its efforts to become sustainable in the reduction of emissions during goods transportation and its carbon footprint improving the energy efficiency of supermarkets.	The company is increasing the number of ecologic products offered to customers and has strong relationships with NGO's for donating food and beverages for non-resources families.

STAGE OF THE CORPORATE SUSTAINABILITY EVOLUTION				
STAGE 1 - Compliance	STAGE 2 - Sustainable Value Chain	STAGE 3 - Eco-innovation	STAGE 4 - Sustainable Business Model	STAGE 5 - New Business Platforms
· Consum accomplishes the environmental requirements.	· 83,6% of carbon footprint reduction since 2015 (through the application of energy efficiency practices). · 99% of national suppliers, 66% of them are placed near the facilities. · 98% of renewable electricity consumption · LED lighting installations. · Logistics programs for optimizing routes and reducing the journeys (TEO and Nodriza).	· 239 ecologic products, 57 of them of the Consum brand. · Fleet of 319 eco-efficient vehicles. · Reduction of the environmental impact of the packaging of the Consum brand products' through the reduction of grammages and implementation of sustainable materials.	· The internal business unit 'Residuo Cero' (Zero Waste) recovers 99% of packaging waste, containers, pallets and other waste that are generated from the Consum's logistics centres. · Consum has donated 6.900 Tn of products (packaged products, from the deli, meat, fruit, vegetable, sweets and dairy products) have been donated via the program 'Profit'.	· At the moment there are no evidences of the advance of Consum forward a new business platform.

SUSTAINABILITY THEORY CONCEPTS			
CONCEPT 1 - Holistic Sustainability	CONCEPT 2 - Sustainable Business Model	CONCEPT 3 - Sustainable Methodologies	CONCEPT 4 - Sustainable Operations
· There is a ESG Department that establishes objectives depending on the results of the materiality matrix. · Objectives about sustainability are communicated to the rest of the company's departments. · The main reporting index used for monitoring the evolution of these objectives is the GRI (Global Reporting Initiative). · Board members drive employees and associates to become more sustainable and adopt these initiatives, however, the providers that offer products in the Consum's supermarkets are not audited or elected according to their sustainable practices.	· Although Consum cannot be considered as a sustainable business model, the 'Zero waste' project for the waste reduction through its recover can be classified as a circular economy business model. · Consum's headquarters, supermarkets and logistics centres have installed energy efficiency practices like LED lighting and refrigerant gases with 0 global warming potential	· For the implementation of sustainable practices, managers have not implemented any methodology, neither methodologies published by academic researchers nor widely known methodologies like Life Cycle Assessment.	· Consum has been replacing its vehicles for eco-efficiency vans and trucks. · Two projects that aim to reduce the amount of kilometres of the trucks during the transport of goods (from suppliers to logistics centres and from logistics centres to supermarkets) have been developed (Nodriza and TEO).

Source: Own elaboration.

4.4.1 Recommendations

According to the corporate sustainability classification, the ESG department of Consum needs to set objectives that seek to fully develop sustainable practices that lead the company to move from the stage of sustainable value chain to the stage of sustainable business model based on the sustainable production archetype. So, it will need to develop the following sustainable practices:

- Increase of the number of ecologic products offered in the supermarkets.
- Application of the Life Cycle Assessment of the suppliers' products. After a careful analysis, implementation of practices that allow an environmental impact reduction (e.g. lightening the packaging, energy efficiency processes during the production, etc).

- Establishment of purchasing policies that gives weight to the sustainable attributes of potential suppliers.
- Continuous implementation of energy efficiency practices in the supermarkets, logistics centres and offices.
- Trainings to employees to increase their environmental awareness.
- Marketing campaigns for positioning the company as a first mover implementing sustainable practices among the retail sector.

4.5. CONCLUSIONS, LIMITATIONS OF THE STUDY AND FUTURE RESEARCH.

This protocol seeks to retrieve sufficient information to allow researchers to understand how companies can create value through sustainability. The protocol is composed by three phases:

- Data extraction of the company from public sources that allow the researcher to understand the business model and value chain and also get some information about the sustainable practices.
- Interview with the company's employees with a set of questions classified depending on the unit of analysis of each one and the type of outcomes expected to obtain.
- Use of the content analysis methodology and data triangulation between the cases studied.

In addition, the use of this protocol seeks to standardise the research process for analysing how companies implement environmental practices and compare them with other companies (from the same sector or from other sectors). This protocol has a wide scope in order to understand the sustainable positioning of the company in its market and how the market values the sustainable attribute. So, the main limitation is the difficulty to get details of specific business units. This might lead to miss some information, specially from the operative level with the aim of learning about the integration of sustainability practices from a strategic point of view.

Additionally, a proper use of this protocol will need from researchers to have basic knowledge about managerial and strategic concepts like business model canvas (Osterwalder & Pigneur, 2010), value chain (Porter, 1985) or the Theory of Stakeholders (Freeman, 1984).

Acknowledgements

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4.6 ANNEX

Questions about Holistic Sustainability:

Checking the company's sustainable policies against these questions will allow to identify how board members deal with the subject matter and know what kind of strategies is executing the company.

Question 1: What motivated the company to become sustainable? What is the company's purpose?

Source of data:

- CEO (Chief Executive Officer)
- CSO (Chief Strategy Officer)
- CSO (Chief Sustainability Officer)

Sample strategies:

- Mission, vision and values statements from website.
- Media press.

Question 2: How is the market dealing with sustainability? Is this company a leader, follower or laggard on the implementation of sustainable practices?

Source of data:

- Product manager
- Product manager assistant
- Sales manager
- Catalogue
- Products portfolio

Sample strategies:

- List the direct competitors of the company.
- Identify which attributes about sustainability their products have.
- Identify which attributes about sustainability those companies have.

- Gather data about when sustainable practices were announced by direct competitors in order to determine which one is the leader, follower and laggard.

Question 3: Analysis of the influence of sustainability in the decision-making process. Are environmental criteria taken into account during the decision-making process? List the environmental criteria used for the decision-making process. Is the company's statement about sustainability aligned with the decision-making process?

Source of data:

- CEO (Chief Executive Officer)
- CSO (Chief Strategy Officer)
- CSO (Chief Sustainability Officer)

Sample strategies:

- Identify the decision-making process established by the board members of the company.
- Estimate how much environmental concerns are taken into consideration during the decision-making process.
- Create a framework or diagram of the decision-making process.

Question 4: What is the process for detecting market needs focused on sustainable attributes?

Source of data:

- CMO (Chief Marketing Officer)
- Sales Manager
- CSO (Chief Sustainability Officer)

Sample strategies:

- Identify if there is a department focused on detecting market trends.
- Gather data about providers that offer services related to markets analysis, consumer studies, etc.

Question 5: Analysis of the relationship with stakeholders and the influence of sustainability in the relationship between company and stakeholders.

Source of data:

- CEO (Chief Executive Officer)
- CSO (Chief Strategy Officer)
- CSO (Chief Sustainability Officer)

Sample strategies:

- Determine what kind of relationships has the company with:
    - Capital market
    - Suppliers
    - Networks and associations
    - Policymakers
    - Research
    - Mass media
    - Business partners
    - Local stakeholders
    - Civil society and NGO's
    - Employers
    - Customers

Question 6: Identify if the company's board members establish environmental goals for the short, medium and long term.

Source of data:

- CEO (Chief Executive Officer)
- CSO (Chief Strategy Officer)

- CSO (Chief Sustainability Officer)

Sample strategies:

- UN Sustainable Development Goals
- Materiality matrix

Questions about Sustainable Business Models:

Checking the company's business model against these questions will allow to identify how the company creates superior value to customers improving the society and reducing the environmental impact.

Question 7: Identify which activities generate value through sustainability and determine flows of value through activities.

Source of data:

- CEO (Chief Executive Officer)
- CSO (Chief Strategy Officer)
- CSO (Chief Sustainability Officer)

Sample strategies:

- Draw the Porter's value chain and complete each activity
- Draw the value flows between activities from the value chain.

Question 8: Classify the sustainable business model developed by the company: circular economy, sustainable production, servitisation and sustainable consumption.

Source of data:

- CEO (Chief Executive Officer)
- CSO (Chief Strategy Officer)

- CSO (Chief Sustainability Officer)

Sample strategies:

- Draw the flows of inputs and outputs that take part in the business.
- Create an organizational chart of the company that shows the different business lines and possible sustainable business models within the company (e.g. circular economy procedures to revalorize waste).
- Whom does the business model supervise?
- What customer segment does the business model target? Is it targeting external or internal customers?

Question 9: Are eco-friendly products and/or services addressed to a specific market niche or are they launched to broad customer segments?

Source of data:

- Sales manager
- Product manager

Sample strategies:

- Reports about the market sector.
- News or press notes published in mass media.

Question 10: How does the company informs or communicates the sustainable practices to customers, users and other groups of interest?

Source of data:

- Chief of Staff
- CSO (Chief Sustainability Officer)

Sample strategies:

- Identify the channels used to deliver information: videos, seminars, conferences, online courses, short sessions, etc.

Question 11: Does the company consider the degree of sustainability of its providers or partners? If does, what are those criteria?

Source of data:

- Purchasing manager
- CSO (Chief Sustainability Officer)

Sample strategies:

- Identify the most key partners and providers of the company.
- Examine what criteria o requirements need to be matched in order to work with the company. For instance: ISO 14001, EMAS, green certificates, eco certificates, etc.

Questions about Sustainable Operations

Checking the company's operations against these questions will allow to identify how business processes from the operational level might reduce the environmental impact.

Question 12: List the products and/or services which incorporate eco-innovative attributes.

Source of data:

- Product manager
- Product manager assistant
- Catalogue
- Products portfolio

Sample strategies:

- Draw a chart with the products and services managed by business line.
- Retrieve information about eco-innovative technologies and practices developed for the last three years.
- Check the eco-innovative practices that have been integrated in the company's products or services.

Question 13: What decision-making process or criteria is considered by the company to invest resources in the development and release of eco-innovative products / services?

Source of data:

- R&D manager
- Product manager
- Product manager assistant
- Catalogue
- Products portfolio

Sample strategies:

- Retrieve information about eco-innovative technologies and practices developed for the last three years and identify characteristics which are similar between each other.
- Identification of the customers' needs that try to solve the eco-innovative products / services.

Question 14: Identify the business areas that create value through sustainable activities.

Source of data:

- CEO (Chief Executive Officer)
- CSO (Chief Strategy Officer)
- CSO (Chief Sustainability Officer)

Sample strategies:

- Complete the business model canvas (Osterwalder & Pigneur, 2010).
- Complete the triple-layered business model canvas (Joyce and Paquin, 2016).

Question 15: Are the channels to deliver products and services to your customers sustainable?

Source of data:

- CLO (Chief Logistics Officer)
- CSO (Chief Sustainability Officer)

Sample strategies:

- Identify the channels used to deliver products and services to customers: vehicle fleet, logistics, shops, offices, stores, etc.
- Identify which eco-innovations or sustainable practices have been implemented in each channel. For instance, energy efficiency processes in cooling systems, eco-innovative trucks, etc.

Question 16: Have the company implemented any measure to reduce the environmental impact of its assets? For instance, energy efficiency measures in offices and production plants, emissions-reduction devices, etc.

Source of data:

- Production Manager
- Chief of Maintenance
- CSO (Chief Sustainability Officer)

Sample strategies:

- Identify the strategic assets of the company. For instance: production center, factory, stores, shops, offices, vehicle fleets, fields, etc.
- Examine what environmental improvements have been implemented recently in the facilities and assets. For instance, acquisitions of eco-innovative production systems, installation of solar panels, implementation of sustainable architecture principles in the company's buildings, etc.

Questions about Sustainable Methodologies

These questions will show if methodologies designed for implementing sustainable practices among companies are widely used by managers and which of them are the most commonly applied.

Question 17: Identify if the company has any green certificate (e.g. ISO 14001, EMAS, BREAM, Ecologic label, etc.) or if it is working to achieve one.

Source of data:

- CSO (Chief Sustainability Officer)
- CEO (Chief Executive Officer)

Sample strategies:

- Information retrieved from website.

Question 18: Examine if the company works with any international standard to report its sustainable practices.

Source of data:

- CEO (Chief Executive Officer)
- CSO (Chief Strategy Officer)
- CSO (Chief Sustainability Officer)

Sample strategies:

Some of the most common international standards for measuring the implementation of sustainable practices are:

- GRI (Global Reporting Initiative)
- Rainforest Alliance
- ISO 26000

Question 19: Did the company use any framework or methodology to implement sustainable practices?

Source of data:

- CSO (Chief Sustainability Officer)

Sample strategies:

Some of the most common sustainable methodologies and frameworks are:

- Triple Layered Canvas
- Framework for Strategic Sustainable Development
- RESTART

- Shareholder-value framework
- Value Mapping Tool

Questions about the Evolution of the Corporate Sustainability

This question will classify the company in the stage of the corporate sustainability evolution and will enlighten the potential practices that might be deployed in order to move forward to a sustainable business model or a new business platform.

Question 20: According to the different stages of the corporate sustainability evolution, in which stage does the company fit?

Source of data:

- Sustainability memories of the company.
- CSO (Chief Sustainability Officer)

Sample strategies:

- Classify the company according to the following corporate sustainability stages:
    - Compliance
    - Sustainable Value Chain
    - Eco-innovative practices
    - Sustainable Business Model
    - New business platforms

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CAPÍTULO 5

HOW DO FIRMS RESPOND TO SUSTAINABLE PRESSURES? MOVING TOWARDS A SUSTAINABLE PRACTICES' ADOPTION FROM A MULTIPLE REAL CASE STUDY

How do firms respond to sustainable pressures? moving towards a sustainable practices' adoption from a multiple real case study.

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ABSTRACT

Companies are facing pressure from several sources as compliance, customers' demands or costs reduction needs, that request them to develop their activities aligned with the sustainable development promotion. However, the managerial tools and frameworks to bring sustainability into practice are in their infancy. Our study contributes to the existing literature offering researchers and managers a tool to analyse how companies integrate sustainability among their strategies and operations. The methodology has been based on the use of the case-study protocol. Four interviews have been carried out with companies from different sectors, and data obtained has been analysed using content analysis methodology. Results show that companies that have a formal structure to deal with sustainability are able to integrate sustainable practices in a higher degree than companies that adopt sustainability in a siloed way. Moreover, this paper shows how the process of sustainability integration differs between existing companies and new companies.

Keywords*: corporate sustainability, sustainable business models, sustainability integration.*

5.1 INTRODUCTION

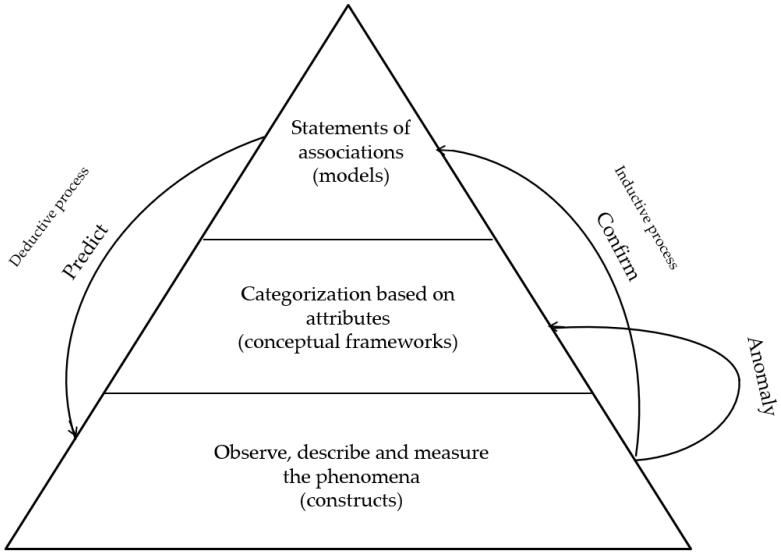
Although corporate sustainability is getting popular among academia, policy makers and businesses, the managerial tools and frameworks to bring sustainability into practice, even in one of the most popular topics like the Circular Economy, are in their infancy (Bocken et al., 2017; Lacy and Rutqvist, 2015).

The implementation of sustainable practices focused on the efficient use of resources or eco-innovative practices have demonstrated to be successful to reduce the environmental impact and increase the social value (Segarra-Oña et al., 2014; Cheng., et al., 2014). Nonetheless, the industry still needs to make an effort in order to achieve some of the objectives set by organisms like the European Union (United Nations, 2015; Tennant, 2013). So, major strategic changes will need to be adopted by companies to address the current consumption of natural resources and to match the Sustainable Development Goals (Ashford & Hall, 2011; Ioannis & Serafeim, 2019).

This paper is encompassed in a recent work based on the development of the Theory of Corporate Sustainability (Sanchez-Planelles, et al., 2021). This theory aims to help managers to improve their decision-making process regarding the implementation of sustainable practices within their organizations. It offers an empirical study of how firms from different sectors respond to sustainable pressures or demands. The methodology deployed lies on the multiple-case study approach, and data has been analysed following the content analysis principles.

The theory development process has been based on the work of Carlile and Christensen (2009). This process is composed by a descriptive stage and a normative stage. Figure 5.1 shows that there are two sides to every lap around the theory-building process: an inductive side (descriptive stage) and a deductive side (prescriptive stage).

Figure 5.1: Process of building theory



Source: Carlile and Christensen (2009)

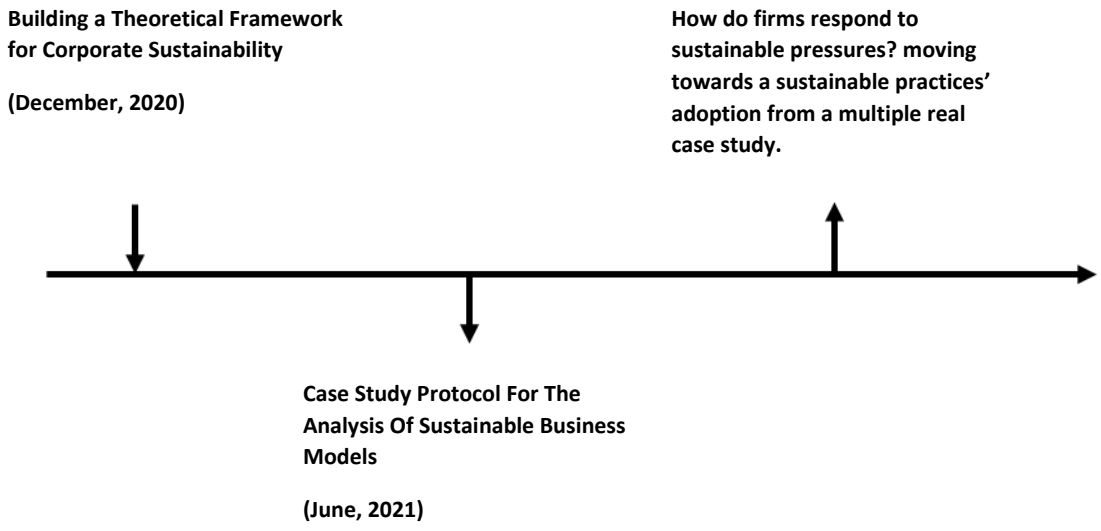
Within the descriptive stage researchers have to go through the following steps:

- Observation: During this process researchers observe and describe the phenomena, as a result, researchers generate "constructs".
- Categorization: Process of data simplification to detect relationships between the phenomena and expected outcomes.
- Associations: Analysis of the correlation between attributes and the outcomes observed. This gives birth to "models" (Turban & Meredith, 1991) (p. 30).

The transition from the descriptive to prescriptive stage occurs when researchers test if the statement of causality is correct (they cycle deductively to the bottom of the pyramid of the figure 1 to test the causal hypothesis) implementing the actions that they expect that will produce the desired outcomes.

Currently, the Theory of Corporate Sustainability is in the descriptive stage. We deployed a careful literature review about corporate sustainability (Sanchez-Planelles, et al., 2021), then a case-study protocol was created (Sanchez-Planelles & Segarra-Oña, 2021), and this paper shows the fieldwork results (Figure 5.2).

Figure 5.2: Diagram that shows the three works that represent the building process of the descriptive stage of the Theory of Corporate Sustainability.

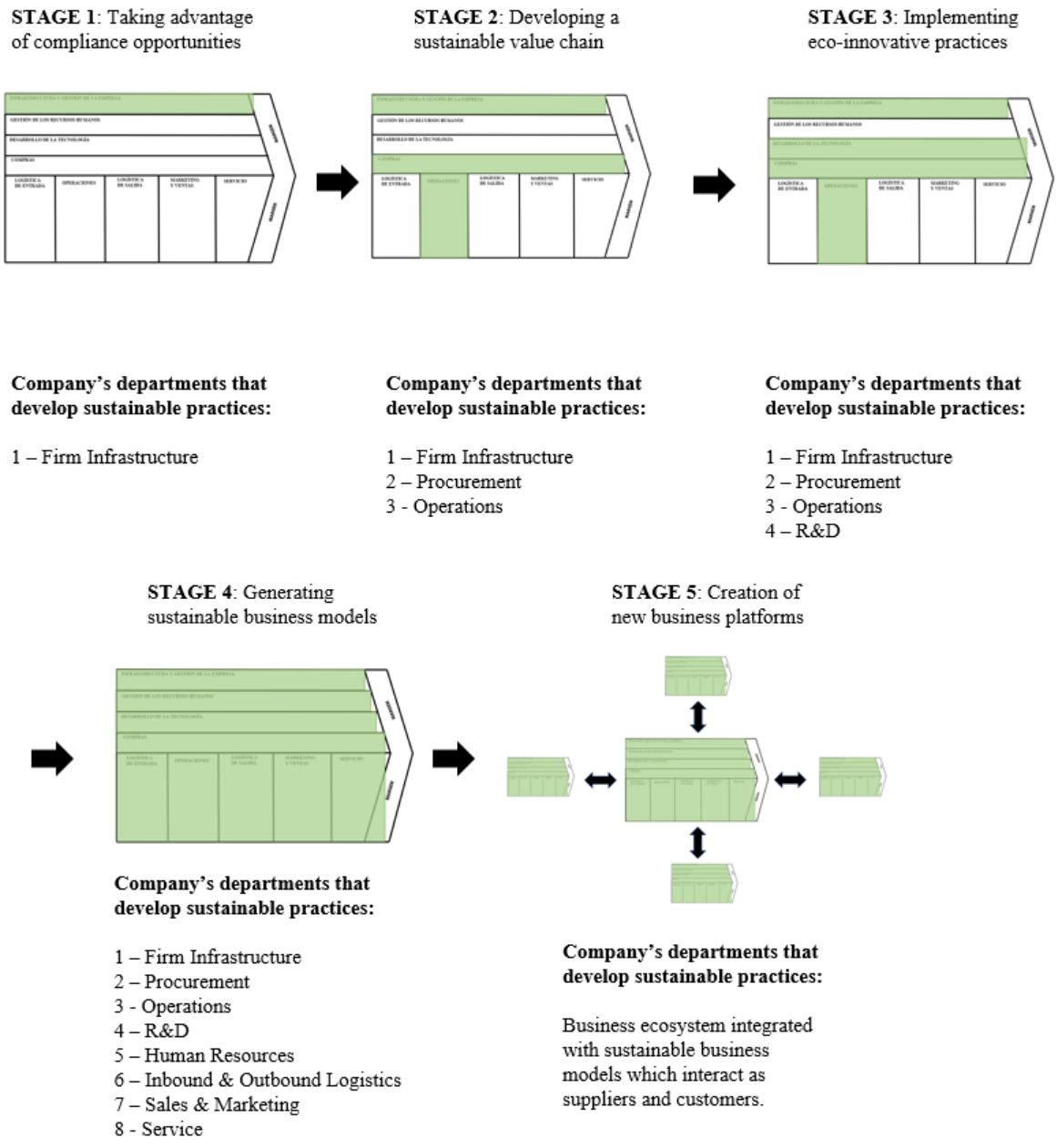


Source: Self-elaboration.

Our study contributes to the existing literature by providing researchers and managers with a tool to analyse how companies integrate sustainability among their strategies and operations. In addition, it

shows a perspective of the stages that companies go through depending on the degree of integration of sustainable practices in their business models (figure 5.3).

Figure 5.3: Evolution of sustainable practices developed by companies and which areas are affected in each stage.



Source: Adapted from Nidumolu, 2009 and Sánchez-Planelles & Segarra-Oña, 2019.

The purpose of this paper is to finish the descriptive stage of the Theory of Corporate Sustainability (Sánchez-Planelles, et al., 2021). In so doing so, we analysed four companies that have implemented sustainable practices. Additionally, we pursue the following research question:

RQ: How do sustainable practices increase companies' performance?

This paper is structured as follows: in the section 2, we show the literature review. The section three describes our methodology, followed by an analysis of our results. These are then discussed taking into account not also the internal side of the companies, but also their relationship with the markets in which they compete. After that, theoretical and practical implications are drawn. Finally, the limitations of the research have been described.

5.2 LITERATURE REVIEW

This section shows the reviewed literature related to the objectives of the research and that has been used as the basis for the questions included in the case-study protocol. First, there is a review of the concept of corporate sustainability. Second, we reflect the impact of corporate sustainability adoption at a corporate level. Third, we review how corporate sustainability implementation affects the relationship between other entities or stakeholders. Finally, the contribution of this theory to the literature review is presented.

5.2.1 Corporate sustainability

Corporate sustainability is a widely used concept to refer to the application of practices that strive to achieve a sustainable development at a corporate level. The application of these practices involve the short and long term economic, social and environmental performance of corporations (Steurer et al. 2005; Baumgartner and Ebner 2010; Lozano 2011; Dyllick and Muff 2015; Hahn et al. 2017).

Nowadays, companies are implementing sustainable practices not only because of government regulations or higher profits, but also because customers, financial players and NGOs are intensifying their pressures (Lozano, 2015; Babiak & Trendafilova, 2011). In the past, business strategy field has underrepresented the environmental problems that companies faced and the potential solutions to be implemented (Schaefer, 2004; Lo, 2010). Corporate sustainability is a multidisciplinary concept that includes an interrelationship of environmental, social and economic topics (Lozano, 2011). Moreover, the implementation of practices related to corporate sustainability, although possibly promoted by companies' executives, might be seen differently at an operational level (Székely and Vom Brocke 2017).

In addition, companies need to implement sustainable practices across the value and supply chain in order to be considered sustainable organizations (Baumgartner, 2014). Therefore, managers need to align the sustainable practices with the corporate strategy and corporate objectives. The company strategy will determine how operations and business processes will be deployed (Porter, 1996). An effective company's strategy needs to take into account the customers' needs (Christensen, et al. 2016) and what the main benefit is that customers are looking to obtain by acquiring the product or service (D'Aveni, 2007). The strategy chosen for the company will determine if there is a necessity to modify the relationship with the stakeholders, the business model and the operations.

5.2.2 Company transformation

The companies that are in the process of integrating sustainable practices within their organizations need to choose and involve those stakeholders that are aligned with the contribution to the economic, environmental and social conditions on a regional and/or macroeconomic scale (Székely and Vom Brocke 2017).

It will also be necessary to review the company's business model. Turning a traditional business model into a sustainable business model involves offering a sustainable value proposition to all the stakeholders, especially to customers. Moreover, when designing the process of value creation and value delivery, the natural, social, and economic capital must be maintained or enhanced (Schaltegger et al. 2016) since sustainable business models usually have a triple vision; environmental, social and economic (Bocken et al., 2019).

On one hand, there is a field of research working on the development of methodologies to help managers to integrate sustainability within business models (Bocken, et al, 2013; Yang et al, 2014; Joyce & Paquin, 2016). On the other hand, sustainability reporting is becoming highly popular, especially because of the pressure from Public Administrations like the European Union. This practice is based on the deployment and implementation of ESG metrics and non-financial information disclosure. These metrics are composed of KPIs that measure environmental, social and governance variables (Acca, 2004).

The transformation of the business model into a sustainable business model will further define the business processes and operations. The shift of operations to seek a more sustainable organization involves the implementation of eco-innovation practices such as improving the energy efficiency of production systems, improving the packaging, etc. (Peiró-Signes & Segarra-Oña, 2018). Furthermore, there are also analytic tools that allow managers to focus on those business processes that will lead to a better performance if they are reshaped, for instance the lifecycle assessment tool or sustainable supply chain management.

Therefore, taking into account the different areas of approach for embedding sustainable practices in business models and the managerial ways to implement them, the case-study protocol has been designed to retrieve information about the companies' strategy, how they have settled or reshaped their business models, whether have applied any methodology and how they have designed the business processes from an operational point of view.

5.2.3 Theory contribution to the literature review

However, the field of corporate sustainability demands theories and frameworks broad enough to be used in a wide way by managers from companies from different industries. The literature review of corporate sustainability, which was encompassed in the descriptive stage of the Theory, gave rise to the construction of 'sustainable concepts' described in the table 1 (Sanchez-Planelles, et al., 2021).

Table 1: Definition of the concepts of the Sustainability Theory.

Concept	Description
Holistic Sustainability (Porter & Kramer, 2011; Nidumolu, et al. 2009; Ioannou & Serafeim, 2019)	Policies with a long term vision and a broad perspective that encompasses sustainable actions for reshaping the interaction of the company with its stakeholders.
Sustainable Business Models (Lüdeke-Freund, 2010; Schaltegger, et al., 2016; Bocken et al., 2014)	Business model that creates competitive advantage through superior customer value and contributes to a sustainable development of the company and society.
Sustainable Methodologies (Joyce & Paquin, 2016; França et al. 2016; Bocken et al. 2013; Rodríguez-Vilá and Bharadwaj 2017).)	Methodologies and tools designed for managers to improve the company's performance and sustainability.
Sustainable Operations (Segarra-Oña, 2012; Cheng, et al. 2014)	Activities and business processes that reduce the environmental impact that only involve specific areas of the organisation (i.e. product development, waste management, eco-innovation, etc.).

Source: Sanchez-Planelles, et al., (2021)

These concepts encompass the sustainable practices proposed and analysed by researchers depending on the company's area that managers want to improve.

Since is a vast field of academic literature that offers eco-innovative practices with a concrete scope (Cowan & Guzman, 2020; Iniesta-Bonillo, et al., 2016; Roscoe, et al., 2016;), these constructs try to contribute to the academic literature that offers a point of view that includes sustainability within strategy and operations of corporations (LLoret, 2016; Lai, 2015; Wagner, 2015).

5.3 METHODOLOGY

5.3.1 Research approach

The approach followed to deploy the methodology is based on a multiple case study (Yin, 2003). This approach allows to investigate the complexity of sustainability within organizations from multiple perspectives. In addition, it brings more robustness to the development of the Theory of Sustainability because multiple case research deals with both theory and empirical findings (Dubois & Gadde, 2002; Stake, 1995). In fact, multiple case research also allows to increase robustness through the collection of data across multiple sectors.

The empirical findings of this paper come from four selected and discrete case studies of companies from sectors of apparel, agriculture and food distribution, waste management and food and beverages retail. These companies operate in sectors that are facing significant challenges in terms of environmental impact reduction. For instance, textile and apparel industry is considered as one of the most polluting industries (Boström & Micheletti, 2016). Another issue that affects all sectors, especially the waste management sector in this case, is the zero waste program developed by the European Union, which is a waste-related policy that seeks to drive Europe towards a zero waste future (Deselnicu, et al., 2018). Regarding the agricultural and food sector, the last decades have seen agricultural and livestock productivity to grow dramatically, which has caused the intensive use of fertilizers and pesticides to increase as well. Currently, this sector demands the integration of biological and ecological processes into its production (Pretty, 2008). The next player in the value chain is the food and beverage retail industry. Supermarket chains play a key role in sustainability initiatives because they are the channel to deliver agricultural and food products to the massive market of consumers. The likelihood of consumers buying ecologic products depend on the retailer's investment in sustainability (Handelman and Arnold, 1999).

This methodology aims to allow future replications of the empirical findings. These cases were selected to examine theoretical and empirical similarities between different types of companies (Yin, 2003).

5.3.2 Data collection

The process of data collection was structured by the case-study protocol that was designed simultaneously in this study (removed in order to avoid the authors identification). The process of data collection is divided in two stages:

- Public data retrieval
- Semi-structured interviews

Once each interview was confirmed, a process of public data retrieval was developed in order to get as much information as possible. Within this stage researchers studied the business model of the company and its value chain. Then, researchers identified the main sustainable practices developed by the company.

Sources of information employed to get this information usually involved the company's website, sustainability reports or non-financial reports (given that companies publish any), press release or other media information.

Interviews are the most important source of information in the multiple-case study research. During the interview, researchers focus on the study topic and are able to retrieve key insights from the interviewed (Eisenhardt & Graebner, 2007; Yin, 2003). Although the interviews followed the set of questions included in the case-study protocol with the aim to cover all the topics under study, during the interviews an atmosphere of open discussion was created to foster a safe space so that the interviewee felt comfortable enough to offer completed answers with insightful information.

To accomplish this, this case-study protocol is based on the semi-structured interview technique with a set of open-ended questions and theory-driven questions. This way allows for exploring those areas of interest which are not exclusively from the core of the interview (Barley & Kunda, 2001).

Each interview started with an introduction of the project and a brief explanation of the objective, which was obtaining a deeper knowledge of the sustainable practices implemented by the company in order to learn how sustainability was integrated within the business model. This explanation allowed researchers and interviewees to always keep the focus on the main topic.

The case-study protocol has a set of twenty questions, which are divided in the sustainable concepts that show the main bodies of knowledge of corporate sustainability (removed in order to avoid the authors identification). The first group of questions is framed in the concept of Holistic Sustainability, which seeks to understand how the business deals with sustainability from a strategic point of view. Some of these questions included: "What is the process for detecting market needs focused on sustainable attributes?" or "Do the company's board members establish environmental goals for the short, medium and long term?".

Then, the second group of questions is included in the concept of Sustainable business models. This concept entails the research about how business activities generate value through sustainability, and includes questions or statements like "Identify which activities generate value through sustainability and determine flows of value through activities" or "Are eco-friendly products and/or services addressed to a specific market niche or are they catered to broad customer segments?".

One of the most important concepts is Sustainable operations, which are focused on the daily operations in order to develop sustainable tasks. This concept arises questions like "Has the company implemented any measure to reduce the environmental impact of its assets?".

Finally, this protocol aims to learn if the methodologies that try to help managers to implement sustainable practices are widely used among companies. This led to the creation of the concept of Sustainable methodologies. The most remarkable question of this concept is "Did the company use any framework or methodology to implement sustainable practices?".

As a result, semi-structured interviews are a useful tool to retrieve information between a formal approach with close-ended questions, and the informal conversational approach. Thanks to the questions included in the case-study protocol, the researcher covers all the relevant areas of study and can explore interesting details from the public information previously obtained that can add value to the study. In fact, this kind of interviews can bring interesting topics that were not initially considered owing to the open-ended questions (Patton, 1990).

The fieldwork was conducted in the second semester of 2020 and involved four interviews to the following companies:

- Consum: Supermarket chain. 755 supermarkets based in Eastern Spain.
- Ecoalf: Clothing company that produces fabric from plastic waste.
- Naranjas Torres: Company that cultivates, harvests, stores and distributes fruits, especially oranges.
- GESREMAN: Waste management company whose mission is to turn waste into products.

The following list show data to demonstrate that these companies are implementing sustainable practices and are suitable for this study:

- Consum: AENOR Zero Waste Certificate[3], Top Employers certificate[4], Family Responsible Company certificate[5] awarded as 'Excellent' (is the only company of the grocery retail industry with this certificate), FSC [6]and EcoLabel[7].
- Ecoalf: BCorp certificate[8].
- Naranjas Torres: Good Farming Practices [9]certificate

[3] AENOR Zero Waste
[4] Top Employers
[5] Family Responsible Company
[6] Forest Stewardship Council
[7] EcoLabel
[8] BCorp
[9] Good Farming Practices

- GESREMAN: The company collaborates with the University of Castilla La Mancha and the University of Barcelona in initiatives related to the remediation of contaminated soils, recovery of natural spaces and wastewater purification.

These companies were initially contacted through a formal letter that was addressed to the person involved in environmental issues (Table 2) (not all the companies have an ESG department). Each interview lasted around 60 minutes and was digitally recorded and transcribed.

Table 5.2: Information about the company and role of the interviewed.

LEGAL NAME	TRADE NAME	TYPE OF COMPANY	INTERVIEWED
CONSUM, S. COOP. V	Consum	Cooperative	Member of the CSR department
Ecoalf Recycled Fabrics Sl	Ecoalf	Limited society (shareholders owned by a fund)	Manager of Ecoalf Foundation
TORRES HERMANOS Y SUCESORES	Naranjas Torres	Family business	Head of HR
GESTIÓN DE RESIDUOS MANCHEGOS	Gesreman	Limited society	Head of R&D

Source: Own elaboration.

5.3.3 Data analysis

The analysis process has followed the content analysis technique (Krippendorff, 2004) as it has been established in the case-study protocol. The processes of data collection and analysis were deployed in parallel to match the data retrieved with new research about the understanding of the impact of corporate sustainability in the companies' performance (Strauss and Corbin, 1990). This 'ground-up' process has been deployed in order to help us to develop the Theory of Corporate Sustainability (Golden-Biddell and Locke, 1997).

The data analysis process started with study of the initial data that was generated from the notes and recordings taken during the interviews and the study performed of the companies' with public data and documents provided by them. This data was discussed and carefully analysed heading to the generation of broad initial findings about information of general organization and more specific information related to the concepts under study. Then, an iterative process of analysis of these findings was carried out.

During this process, led to the generation of 43 categories when the saturation stage was reached. Some examples of the categories are: 'link between company's brand and sustainability' and 'collaboration with stakeholders'. The syntactic structure of these categories is based on the literature review performed during the development of this work and the conceptual framework developed by the Theory of Corporate Sustainability. Categories need to be able to show the same type of information than several codes or ideas expressed by the interviewed. So, the categories generated gather from 1 to 14 codes.

After this, relationships between these categories have been established. The connections search process has been developed through the axial coding technique (Strauss, 1987). The empirical findings were compared with academic literature to determine whether there was a match between conceptual and observed patterns (Yin, 2003).Finally, these results are presented in tables that summarize the information of each company and the relationships between them from two perspectives:

- From the managerial point of view showing information related to the business model (Osterwalder & Pigneur, 2010), value chain (Porter, 1985) and the Theory of Shared Value (Porter, 2014).
- From the point of view of the sustainable concepts created during the descriptive stage of the Theory of Corporate Sustainability (removed in order to avoid the authors identification).

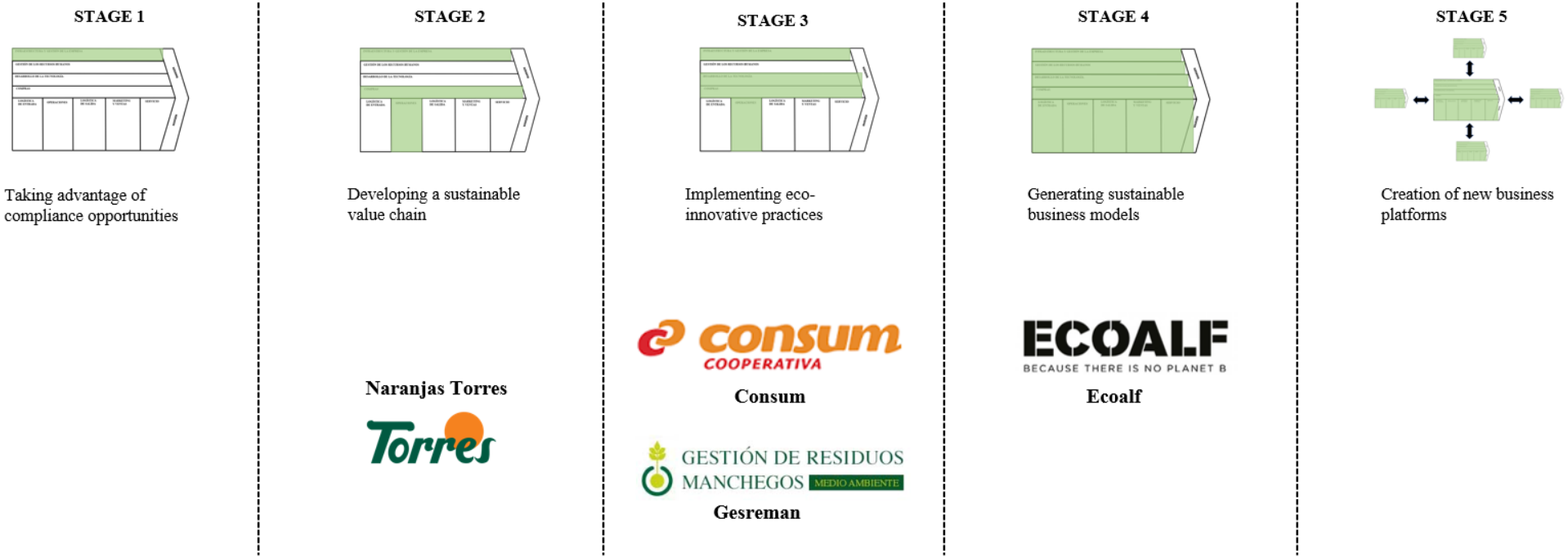
Companies have been classified depending on the corporate sustainability stage in which they are (table 1).

Furthermore, financial metrics have been also extracted in order to examine the companies' performance and establish a relationship, if any, between sustainability integration and financial results.

5.4 FINDINGS

Figure 5.4 shows the stage of the evolution of the corporate sustainability that they are classified according to the sustainable practices implemented.

Figure 5.4: Classification of the analysed companies according to the evolution of the sustainable practices.



Source: Adapted from data collected in the interviews and Nidumolu, 2009 and Sánchez-Planelles & Segarra-Oña, 2019.

In the annex there are the details of the sustainable practices implemented by each company. Taking into account the corporate sustainability classification, Ecoalf can be considered a sustainable business model. Ecoalf and Consum take into account sustainability when managers need to take a decision. On one hand, Consum has an Environmental Management System that has integrated sustainability among the company's departments and all the managers and middle managers have to match their sustainable targets. On the other hand, Ecoalf was founded with the sustainability placed in the core of the business and with no need of an Environmental Management System, the corporate culture demands to take into account the environmental respect and social impact in each decision (since renting new spaces to the recruitment process).

However, Gesreman and Naranjas Torres adopt sustainable practices as new challenges arise. Gesreman has an R+D department continuously launching eco-innovative products (e.g. fertilizers or bioremediation products), so its value transfer goes from the R+D department to the product manager and, eventually, to customers. Naranjas Torres, on the other hand, involves its stakeholders in the value creation process. Customers demand bio products and the product department contacts suppliers in order to develop those kinds of fruits. Moreover, it also creates value for its own value chain through the implementation of energy efficiency practices.

Table 5.5 shows a general description of the businesses' activities, the corporate strategies (differentiation or costs), type of addressed customers, products or services offered and the markets of each company. This information is necessary to know in order to identify the suitable sustainable practices that might be adopted by managers with the aim to keep advancing forward the next stages.

Table 5.5: Description of the activity and strategy followed by each analysed company.

COMPANY	BUSINESS MODEL	CORPORATE STRATEGY	CUSTOMER	PRODUCT / SERVICE	MARKET
Consum	Chain of supermarkets that offers a wide range of local products.	**Costs strategy:** Offers low-cost products which are affordable. It has its own brand which is cheaper than other brands.	**Business to consumer:** People who live near supermarkets. Usually are customers that are looking for regular products, not gourmet or premium groceries.	All kind of groceries: food, beverages, household products, personal care products and cosmetics.	East of Spain (Catalonia, Valencian Community, Aragon, Castilla-La Mancha, Murcia and Andalusia).
Ecoalf	Apparel company positioned as a premium brand, specialized in outwear with a timeless design manufactured using recycled material.	**Differentiation strategy**: Offers high quality apparel products placed in the same segment than companies like Patagonia and North Face.	**Business to consumer:** Men of more than 30 years old, with higher education that live in cities.	Apparel company that produces fabric from collected PET bottles from oceans. There are also collaborations with other companies to produce furniture.	Mainly Spain and northern European countries. There is also online shopping that can be delivered to several European countries.
Naranjas Torres	Agricultural and food company that cultivates, harvests, distributes and sells fruits, especially oranges.	**Differentiation strategy**: Produces high quality fruits, especially oranges that are sold in specialized supermarkets and shops.	**Business to business and business to customer**: Customers with high incomes that value fruit quality and sales channels that sell to this kind of customers.	Mainly oranges and clementines, but there are also persimmons, cherries, strawberries, kiwis, lemons and melons.	Mainly Spain but the company is starting to export to other European countries.
Gesreman	Waste management company that develops R+D processes to turn collected waste into products like fertilizers or land bioremediation.	**Differentiation strategy:** the R&D department is working on the development of new products designed to solve specific situations of contaminated land.	**Business to business:** Public Administrations and construction companies.	Waste collection service and remediation soil services developed that use waste that has been managed by the company.	Public Administrations and companies from towns and cities close to the company's headquarters (Madridejos, Castilla - La Mancha).

Source: Own data retrieved from public information and interviews. Adapted from Collis & Rukstad (2008).

5.1 Financial metrics

The following table (table 5.4) shows the financial metrics and number of employees of the companies analysed:

Table 5.4: Evolution of the financial metrics (sales and EBITDA) and number of employees.

Company	Nº of employees in 2019	Sales evolution 2016 - 2019	EBITDA evolution 2016- 2019
Consum	15.363	27,7%	26,2%
Ecoalf	55	252,8%	567,6%
Naranjas Torres	370	11,4%	-2,1%
Gesreman	4	109,7%	173,9%

Source: Own elaboration

Financial results show how all the companies have grown between 2016 and 2019 (sales evolution). Sales increase has been more dramatically in the younger companies, Ecoalf and Gesreman, than mature companies, Consum and Naranjas Torres. On the same page, this trend is replicable to the profitability. The financial metric that measures the profitability generated by companies' activities is the EBITDA (earnings before interests, taxes and amortizations). Ecoalf and Gesreman show the biggest increase (547,6% and 173,9%). Consum also has improved its profitability (26,2%), however, the profitability of Naranjas Torres is -2,1%.

5.5 DISCUSSION

The study and implementation of sustainable practices in private companies are popular themes among managers and researchers (Bocken et al. 2019). Nevertheless, the research fields of the shift from a traditional business model to a sustainable one and sustainability-oriented innovation are still under development (Antikainen et al., 2017). In fact, the value creation through sustainable practices implementation or sustainable business model transformation is still poorly understood (Boons & Bocken, 2018).

The framework (figure 5.4, table 5.5 and table 5.6) presented in this article offers a way to analyse efficiently organizations to how they create value with sustainable practices. Then, the corporate

sustainability evolution (figure 5.4) offers a roadmap to learn where to focus the efforts regarding the next steps of sustainable business models transformation.

After reviewing the results, we can answer the research question (How do sustainable practices increase companies' performance) stating that there are three key issues that managers need to take into account during the process of sustainability integration with the aim of increasing performance:

- Integration of sustainability into the company's structure.
- Identification of customers' needs

Another conclusion from the study, as shown by financial metrics (table 5.4), and defended by other authors (Haanaes et al., 2013; Porter, 2014; Belas et al., 2021), asserts that the implementation of sustainability in the business model might have a direct relationship with the sales increase. However, managers need to consider the impact in the profitability of these actions. Actions that can improve the brand's reputation might have an associated cost increase that does not translate into a sales increase. In fact, some of these actions must be necessary to be accomplished just for remaining competitive in the market, especially if the company is not a fast-mover in its niche (Ioannou & Serafeim, 2019).

5.5.1. Sustainability integration

The concept of corporate sustainability involves several challenges that companies need to face. These challenges include changes in governmental regulations, changes in customers' demands, reputational risk, costs increase, etc. (Asif et al., 2013). In order to monitor these risks, several authors suggest integrating sustainability issues in the strategic and operational decision process of companies (Azapagic, 2003; Jamali, 2006; Maon et al.,2009). Bearing witness to this, the number of companies that integrate sustainability in their organization implementing formal environmental management systems is increasing (Hahn et al., 2015). In fact, it has been stated that key drivers of eco-innovation intensity come from the companies' organizational capabilities and their environmental management system (EMS) (Demirel & Kesidou, 2011).

In this study we have seen how companies that have integrated sustainability within the corporate's strategy achieve higher levels of sustainable practices implementation. Results show how each company approaches sustainability from a different perspective. On one hand, Ecoalf, which is a sustainable business model fairly young (founded in 2009), takes into consideration the environmental reduction across every business processes and in the decision-making process. Even though there is not an ESG or sustainability department, the aim of reducing the carbon footprint is considered in all the decisions. Not only when launching new clothing products does this hold true, but also when searching for new spaces for shops.

On the other hand, the size and type of business model of Consum has led the cooperative to address sustainable issues hierarchically. Consum is considered a 'big company' under the Spanish legislation, so it has a remarkable pressure from the Public Administrations to reduce its environmental impact and improving the social impact (e.g. Consum is affected by the Non-financial reporting Directive since 2018). Besides the legislative pressures, the executives' concerns about turning Consum into a sustainable company has prompted the establishment of an ESG department and the adoption of a process to include environmental, social and governance issues within the strategy and operations.

5.5.2 The role of R+D and customers' needs identification

R+D investments play a key role in developing sustainable business models and eco-innovative products (Costa-Campi et al., 2017). Nonetheless, it is necessary to know how the value generated from the R+D outcomes is transferred to the stakeholders. The investments in eco-innovation are determined by companies' capabilities (Kemp et al., 1992).

Sustainable products used to be associated to premium brands (Lueg et al, 2015; Walsh & Dodds, 2017). However, there are successful examples of companies that operate in highly commoditized markets that have implemented sustainable practices within their products and have achieved bigger market shares with no price increase (Henderson & Nellemann, 2011; & lonescu-Somers & Seifert, 2014). In this study, Naranjas Torres and Ecoalf are premium brands that consider sustainability inherent in their brand purpose. However, commoditized companies face the challenge to reduce their environmental impact without increasing prices, because that increase will have a significant impact in those markets where the demand is elastic. Therefore, not only companies that follow a differentiation strategy need to add value through sustainable practices but also companies that follow a cost strategy. Therefore, companies with a cost strategy approach will need to allocate their resources efficiently in order to focus their efforts on those changes that will create as much value and positive impact as possible for customers in order to compensate the potential profitability reduction.

Concerning customers' needs, Esty & Winston (2006) state that customers do not purchase products or services because they are sustainable, but because they need them. They regard the sustainability of the product or service as an attribute like quality, design or price. Companies need to measure the importance that customers give to the sustainability attribute and their willingness to pay for it (Collis, 2021). Businesses like Ecoalf and Naranjas Torres, which operate in premium markets, have the possibility to offer products for high-profile customers because these market niches see sustainability as an attribute for which it is worth paying. However, Consum has to be able to reduce the environmental impact of its operations and products sold in their supermarkets without increasing prices, but it has to expect a return on investment based on a market share increase. Finally, Gesreman is launching eco-innovative products but in a commoditized business-to-business market. It currently

launches products as new types of waste are collected and need to be revalued in order to avoid paying taxes.

As a result of the previous research deployed during the descriptive stage of the Theory of Corporate Sustainability and these case studies, table 6 shows a framework to know what kind of sustainable practices should be implemented in a company depending on the stage of the evolution of sustainability that the organization is found. Then, sustainable practices are classified according to the sustainable concepts showed above and if the company follows a differentiation or costs strategy.

Table 5.6: Sustainable practices that might be implemented by companies depending on the stage of the sustainability evolution and the sustainable concept.

STAGE	HOLISTIC SUSTAINABILITY	SUSTAINABLE BUSINESS MODELS	SUSTAINABLE METHODOLOGIES	SUSTAINABLE OPERATIONS
Taking advantage of compliance opportunities	· Anticipate new regulations. · Publication of sustainability reports. · Implementation of Best Available Techniques[10]. · Development of new technologies and processes to substitute products and services that will affected by new regulation.			
Sustainable Value Chain	**Companies that follow a differentiation strategy:** · To encourage suppliers to apply sustainable practices		· Obtaining certificates such as ISO 14001, EMAS, BCorp, Environmental Declarations, EcoLabel, FSC, etc. · The use of reporting methodologies such as the GRI[11] (Global Reporting Initiative) or SDG (Sustainable Development Goals) in case of the publication of Sustainability Reports.	**Companies that follow a differentiation strategy:** · Redesign of production lines in order to increase operational efficiency. **Companies that follow a cost strategy:** · Application of mature technologies that reduce the consumption of raw materials and energy (e.g. solar panels). **All kind of corporate strategies:** · Find innovative solutions for

[10] EU Best Available Techniques reference documents (BREFs)
[11] Global Reporting Initiative

				used products through the Circular Economy.
Eco-innovative practices	· Hire managers and / or middle managers whose function is to promote sustainability in the company. · Development of relationships with other stakeholders (competitors, suppliers, customers, investors, NGOs and Public Administrations). · Creation of business associations.	· Protocolization of the decision-making process in order to integrate sustainability in each departments. · Establishment of objectives for managers and middle managers focused on achieving sustainable targets (e.g. greenhouse gases reduction, reduction of energy consumption, increase of eco-innovative products sales, etc.). · Design and market launch of eco-innovative practices. If the new product follows a different strategy than the corporation, should be launched by a independent business unit (Christensen, et al., 2015).	Implementation of methodologies: - Value mapping tool (Bocken, e al., 2013) - Environmental Purpose Strategies (Rodríguez-Vilá & Bharadwaj, 2017) - Life Cycle Analysis (Klöpffer, 1997) - S.R.O.I. (Sustainable Return On Investment) (Banke-Thomas, et al., 2015) - ROSI tool (Atz, et al., 2021)	**Companies that follow a differentiation strategy:** · Implementation of sustainable practices in the department of logistics (e.g. design of circular routes to advantage of the load capacity of vehicles). · Investment in electric vehicles. · Development of technology that reduces the environmental impact of products throughout their life cycle. **Companies that follow a cost strategy:** · Use of mature and cost-effective technology to reduce the environmental impact of the products.

Sustainable Business Models	· Shaping company's culture towards sustainability. · Incorporation of sustainability in the decision-making process in each company's departments (from procurement, R&D to logistics and operations). *E.g. impact investment funds(Maduro, et al., 2018)*	· Implementation of an Environmental Management System. · Analysis of consumer trends regarding sustainability. · Putting sustainability as a source of value generation between company's departments and stakeholders. *E.g. sustainable business models tend to follow differentiation strategies, except those related to renewable energies.*	· Environmental and Social performance measurement systems. · Impact measurement systems. · Theory of Change (Jackson, 2013)	**Companies that follow a differentiation strategy:** · Encouraging suppliers to generate their own technology focused on sustainability.

Source: Own elaboration.

The implementation of these practices and its result in the financial metrics need to be driven by the companies' executives, especially in those companies placed in the most advanced stages. Then, the sustainable practices need to be chosen and implemented aligned with the corporate strategy (table 5). Additionally, if comes out a strategic decision that demands launching a new product that does not fit with the current strategy, it will be necessary to create a new business unit with other executive members, new processes and culture to ensure the new product's success.

5.6. CONCLUSIONS AND IMPLICATIONS

This paper is part of the development of the descriptive stage of the Theory of Corporate Sustainability. Four companies have been analysed using sustainable concepts and the case-study protocol as analysis tools, demonstrating these tools are efficient frameworks to study the degree of integration in organizations.

Companies that have been founded putting sustainability in their core business are able to design a value chain and supply chain with a sustainable perspective (developing eco-innovative products, working with purpose-driven stakeholders, etc.). However, big and mature companies that want to become a sustainable business model need to embrace a deep transformation process that not only has to encompass an internal transformation but also has to engage stakeholders, such as suppliers or NGOs. These results show how companies with purpose-driven executives that integrate sustainability in the decision-making process are able to achieve this transformation with higher rates of success. In addition, this study reinforces the fact that companies that implement this kind of practices substantially increase their sales and profitability.

Some of the topics that arose during the research process is that there is no body of literature about customers and how the market will value sustainable attributes from products and services launched by these companies.

Managerial implications suggest that executives should establish a process for advancing in the integration of sustainability increasing the organizational capabilities. Due to the complexity of this matter, it is recommended to understand what sustainable attributes are valued by customers (D'Aveni, 2007) and how value will transfer from the company to other stakeholders like society, investors or suppliers. This kind of analysis will allow managers to prioritize those practices with higher impact and lower resources consumption.

5.7. LIMITATIONS AND FUTURE LINES OF RESEARCH

This work contributes to our understanding of the drivers that lead companies to become sustainable and increase their performance. However, we are aware of the study's limitations. The sample only has four Spanish-based companies from different sectors. We therefore encourage researchers to develop further research using our framework in different countries. Public-private supply relationships and public procurement are increasing their importance, so future research should include public companies. In addition, it would be interesting to analyse the differences between sustainable practices implemented by product companies and service companies. This work has been deployed from a private company's perspective; however, further research should extend the perspective to the whole supply chain. This topic becomes more interesting when applied to those companies with manufacturing processes and complex supply chains that transport raw materials and manufactured products from other countries. Consequently, further research should investigate the relationship between company and suppliers and the reputational risk management.

These research suggestions will allow us to keep moving forward to the prescriptive stage of the Theory of Sustainability. This theory will then shine a light on what practices will be most suitable to be implemented depending on the company's situation and the market in which it competes.

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5.9 ANNEX

Annex 5.1: Sustainable practices implemented in the four analysed companies classified depending on the sustainable concept.

COMPANY	HOLISTIC SUSTAINABILITY	SUSTAINABLE BUSINESS MODEL	SUSTAINABLE OPERATIONS
Consum	· There is an ESG Department that establishes objectives depending on the results of the materiality matrix. · Objectives about sustainability are communicated to the rest of the company's departments. · The main reporting index used to monitor the evolution of these objectives is the GRI (Global Reporting Initiative). · Board members encourage employees and associates to become more sustainable, however, the providers that offer products in the Consum's supermarkets are not audited or elected according to their sustainable practices. · Consum has donated 6.900 Tn of products (packaged products, from deli, meat, fruit, vegetables, sweets and dairy products) through its program 'Profit'.	· The internal business unit 'Residuo Cero' (Zero Waste) recovers 99% of packaging waste, containers, pallets and other waste that are generated from Consum's logistics centres. · Out of the 99% of national suppliers, 66% of them are based near the facilities. · Consum has 239 ecologic products, 57 of them of the Consum brand.	· Carbon footprint has been reduced by 83,6% since 2015 (through the application of energy efficiency practices). · The 98% of electricity consumption comes from renewable sources. · LED lighting installations · Logistics programs for optimizing routes and reducing journeys (TEO and Nodriza) · There is a vehicle fleet of 319 eco-efficient vehicles. · Reduction of the environmental impact of Consum own brand's packaging through the reduction of grammages and implementation of sustainable materials.

Ecoalf	· Sustainability is a transversal topic in every department, hence there not being an ESG one. · The decision-making process takes into account sustainable requirements. The goals of the company include the reduction of the environmental impact. · Ecoalf has implemented a dashboard system capable to monitor several KPIs about impact reduction (some of them are shown in the clothes (e.g. CO2 Tn saved and litres of waters saved during the manufacturing process). · The decision of launching a new clothes line is always based on how likely it is to be manufactured with recycled materials. · The company, through its own Foundation, develops several activities with the aim of increasing environmental awareness in society.	· Ecoalf is a company based on the circular economy. It has a network of fishermen around the Spanish coast that collects plastic bottles from the sea. Ecoalf has suppliers that turn that waste into fabric that lately becomes clothes like jackets and T-shirts.	· Most of the operations developed by the company are considered 'Sustainable operations'. · Recruitment policy tries to hire conscious people about sustainability and there are periodic trainings. · The purchasing policy and contracts with suppliers need to meet some requirements like green certificates. · The R+D department always develops new clothes and material based on waste turned into valuable products. · The brick-and-mortar locals have to follow environmental requirements like energy efficiency practices. Locals also have spaces for giving talks, doing workshops, etc. · Logistics have to be sustainable (e.g. last mile deliveries by bike). · Marketing and commercial campaigns show the environmental attributes of the clothes. · Managers of the company are constantly giving talks and workshops in order to increase user and consumers' awareness.
Naranjas Torres	· The company's structure does not have any department or any role focused on sustainable issues. · Objectives related to sustainability are proposed by middle managers. Then, these goals are included in the annual budget. · There are no specific	·Naranjas Torres is launching a new line of bioproducts.	· The lighting of the logistic centre is LED-based. · There is a line of R+D working on water reduction in the irrigation system. · Suppliers of ecologic products develop sustainable agricultural practices.

	KPIs related to sustainability performance. · Board members link sustainability with its branding. They consider that a premium band should develop sustainable practices. · Naranjas Torres contributes to a healthy lifestyle among its local community through sports activities sponsorship and activities showing the benefits of a healthy diet.		
Gesreman	· Board members of the company do not approach sustainability from a transversal point of view. Sustainability is siloed in the R+D department, which works on the development of sustainable products based on circular economy principles. · The decision-making process for investing in new sustainable practices seeks to avoid sending waste to landfills. · The company uses KPIs to measure the characteristics of each product, such as the quantity of water, hazardous materials, etc. · The company has several agreements with universities, public administrations and researchers. It is also involved in talks and congresses.	· Gesreman has two separate business units: waste collection and waste transformation into valuable products. Therefore, sustainability practices lie on the transformation of waste, based on a circular economy model.	· There are no remarkable sustainable practices within the business unit of waste collection. · The R+D department develops processes to purify waste water and turn waste into both fertilizers and bioremediation products, the latter of which will degrade pollutants in lands.

CAPÍTULO 6:

CONCLUSIONES

6.1 CONCLUSIONES

La presente tesis valida que la aplicación de las prácticas sostenibles por parte de las compañías genera mejoras de su rendimiento (Porter & Kramer, 2011) y, además, que estas deben estar alineadas con la estrategia corporativa y el mercado en el que operan (Ioannou & Serafeim, 2019). Para poder determinar el tipo de prácticas sostenibles más adecuadas a implementar por parte de los responsables de las organizaciones, surgió la necesidad de desarrollar la Teoría de la Sostenibilidad Corporativa. Para ello, se llevó a cabo un análisis del estado del arte relacionado con la sostenibilidad y, posteriormente, se desarrolló el estudio de casos.

Mediante el estado del arte se identificaron los cinco conceptos que conforman la Teoría de la Sostenibilidad Corporativa (sostenibilidad holística, modelos de negocio sostenibles, metodologías sostenibles, operaciones sostenibles e innovación orientada a la sostenibilidad). La identificación de estos cinco grandes campos de investigación ha permitido avanzar hacia una fase de investigación cualitativa de casos reales de empresas ya que establecieron las bases para el análisis de las compañías.

Los cinco conceptos identificados generan unidades de análisis independientes de cada organización que facilitan la comprensión del estado de integración de la sostenibilidad en el modelo de negocio.

Al contar con estos conceptos, que sirven como herramientas de análisis de compañías, y la necesidad de contar con un procedimiento de estudio del nivel de integración de la sostenibilidad en las compañías, se diseñó un protocolo de estudio de casos que contase con una serie de preguntas y una metodología de análisis y diagnóstico basado en el contenido de cada uno de los conceptos identificados.

Mediante el análisis de los resultados obtenidos, se establece que las compañías capaces de generar una ventaja competitiva a través de la sostenibilidad son aquellas que, por lo menos, aplican acciones englobadas en los conceptos de sostenibilidad holística (p.e. establecer un sistema de gestión ambiental) y acciones englobadas en el concepto de operaciones sostenibles (p.e. reducir el consumo de recursos empleados en la producción).

Además, se observó que debido a que la integración de la sostenibilidad es un proceso de transformación complejo para las compañías maduras, es más común encontrar modelos de negocio sostenible entre las empresas de reciente creación. Ya que éstas no deben transformar la cultura empresarial y orientar los procesos en un sentido diferente al que estaban aplicándolos durante los últimos años.

Normalmente, cuando las compañías inician el proceso de integrar la sostenibilidad en su organización, suelen implementar prácticas sostenibles que afectan a ámbitos internos que no

revisten de una compleja implementación y que redundan en un retorno a corto plazo (p.e. instalación de placas fotovoltaicas para ahorrar en el suministro eléctrico). No obstante, este tipo de acciones únicamente mejoran la operativa de la compañía. Posteriormente, las prácticas sostenibles deben contar con un componente estratégico que influya directamente en la manera que la compañía interactúa con el mercado y con el resto de sus 'stakeholders' (p.e. diseño y lanzamiento de productos eco-innovadores). Para acometer este tipo de proyectos de manera exitosa es necesario contar con el apoyo y liderazgo de la dirección de la compañía, de manera que, a través de los mecanismos de transmisión de cultura organizacional, vaya influyendo al resto de mandos intermedios y niveles operativos que conforman el personal de la empresa.

Asimismo, para que las organizaciones puedan avanzar hacia fases más maduras de integración de la sostenibilidad y que puedan ser consideradas modelos de negocio sostenibles en base a las etapas de la sostenibilidad consideradas en esta tesis, deben dejar de considerar la sostenibilidad como un silo y protocolizar su integración en cada área de la empresa para que forme parte de los procesos de toma de decisiones. Desde decisiones estratégicas como lanzamiento de nuevos productos o penetración en nuevos mercados, hasta decisiones operativas relativas a la inversión en una determinada tecnología. Para esto, como en cualquier otro ámbito de transformación empresarial, es necesario que el equipo directivo de la compañía (especialmente el/a CEO o fundador/a) promueva su desarrollo y que vaya descendiendo hasta el nivel operativo de la organización.

Además, varios autores del campo del "management" como Collis (2021) o Christensen, et al. (2016) destacan la importancia de identificar qué necesidades buscan satisfacer los clientes a través de la adquisición del producto o servicio en cuestión. Lo que posteriormente, permite determinar cómo la incorporación del atributo de la sostenibilidad puede mejorar la satisfacción del usuario. Es decir, tal y como defienden Winston y Esty (2006), los clientes no adquieren un determinado producto debido a que es sostenible, sino que en sus procesos de compra evalúan la sostenibilidad como un atributo más como puede ser la calidad o diseño. Es por eso que, los directivos deben entender este proceso de compra y orientar la estrategia y operaciones de su compañía a incrementar la satisfacción del cliente.

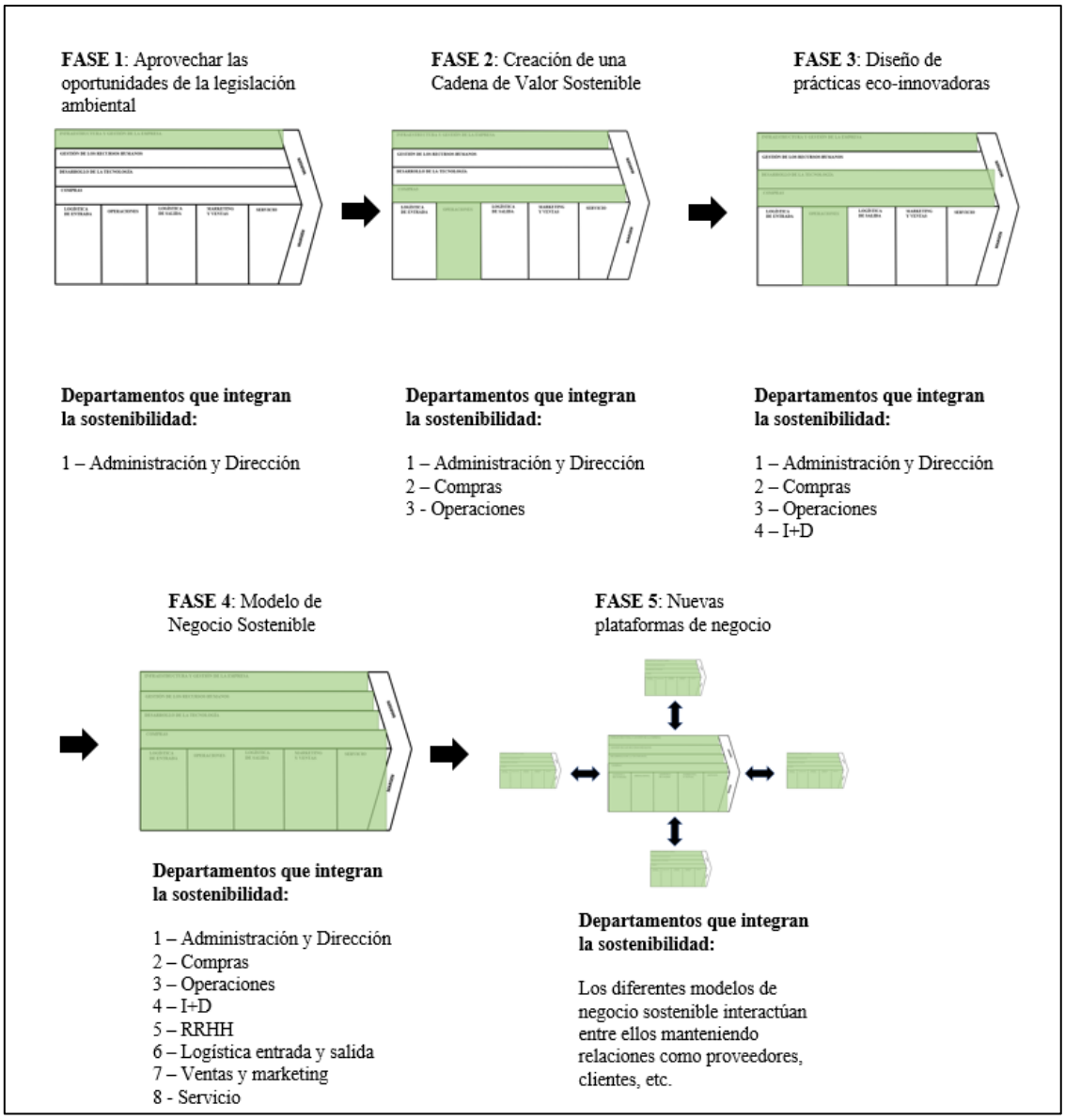
A diferencia de los autores que defienden que la sostenibilidad es capaz de mejorar la competitividad de las compañías (Cheng, et al., 2014), mediante esta tesis se defiende que la verdadera causa que mejora competitiva y generación de valor radica en la implantación de la sostenibilidad como un vector de la estrategia de la compañía. Es por ello que, a la hora de implantar acciones de estas características, la compañía debe conocer las necesidades de sus usuarios y clientes para poder configurar su cadena de valor orientada a resolver sus problemas.

Igualmente, tras el estudio realizado ha quedado patente que la integración de la sostenibilidad en una organización madura es un proceso que implica un cambio cultural del equipo del que no se pueden esperar resultados a corto plazo. Por lo que es recomendable que las organizaciones sean conscientes del nivel de aceptación de la sostenibilidad entre la cultura corporativa a la hora de acometer proyectos complejos. Por tanto, aquellas compañías que se encuentran en las primeras fases de implantación de prácticas sostenibles, es recomendable que opten por acciones enfocadas a mejorar su cadena de valor (es decir, aquellas enmarcadas en la fase de construcción de una cadena de valor sostenible ubicadas en la tercera fase de la evolución de la sostenibilidad corporativa).

Se observa como existe una notable diferencia entre las prácticas sostenibles que deben aplicar compañías que siguen estrategias de costes respecto a las compañías que siguen estrategias de diferenciación. Las compañías que compiten por precio, el incremento de coste que puede suponer la aplicación de prácticas sostenibles en sus productos o servicios podría suponer una pérdida de cuota de mercado en caso de trasladar dicho coste al precio final, ya que operan en mercados cuyas demandas son muy elásticas. Por lo que suelen centrar esfuerzos en las prácticas que incrementan la sostenibilidad de la cadena de valor para mejorar en eficiencia. Una vez la tecnología haya evolucionado lo suficiente, acometen el proceso de aplicar prácticas eco-innovadoras. Este ejemplo se visualiza entre las empresas de moda de gran consumo, las cuáles hasta que la tecnología no ha evolucionado lo suficiente para poder reciclar parte de los tejidos, se han centrado en aplicar prácticas relacionadas con el bienestar de los empleados de los diferentes proveedores con que trabajan o reducir el impacto ambiental de las cadenas de suministro. Sin embargo, las compañías que compiten basándose en una estrategia de diferenciación, sí son capaces de aplicar prácticas sostenibles a través de tecnologías recientes y que supongan un incremento de precio que debe asumir su cliente, ya que suele presentar una demanda menos elástica que el de las compañías presentadas anteriormente. Es por eso que este tipo de organizaciones suelen aplicar tecnologías en sus fases más tempranas y a medida que avanzan en la curva de experiencia, son capaces de ser implantadas por las compañías cuyos productos o servicios se comercializan a menor precio, pero con una elevada rotación.

Cuando aunamos las diferentes conclusiones obtenidas a través de este estudio, podemos determinar que el proceso de integración de la sostenibilidad en las organizaciones, teniendo en cuenta las fases de la evolución de la sostenibilidad corporativa, consiste introducir la sostenibilidad en las siguientes áreas de la cadena de valor de la organización (Figura 6.1).

Figura 6.1: Diagrama que muestra las áreas de la cadena de valor que aplican prácticas sostenibles en cada una de las fases de la evolución de la sostenibilidad corporativa.



Fuente: adaptación de Nidumolu y Rangaswami (2009); y Sánchez-Planelles & Segarra-Oña, (2019).

Para poder conocer qué tipo de prácticas sostenibles desarrollar en cada área de la compañía, es necesario establecer una dirección estratégica alineada con la sostenibilidad. Para ello, Collis y Rukstad (2008) y Sainz de Vicuña (2012) defienden que es necesario detallar la orientación de la empresa respecto a los siguientes campos:

- Visión, misión y valores
- Estrategia (estrategia de diferenciación o costes)
- Características del cliente
- Tipología de producto / servicio
- Mercado en el que compite la empresa

De manera que, se debe llevar a cabo un análisis en el que se determine cómo la sostenibilidad incrementa el rendimiento de la compañía manteniendo el alineamiento y coherencia con estos campos. En caso de que, por ejemplo, se plantee el lanzamiento de un producto eco-innovador a un target de cliente diferente al de los productos comercializados tradicionalmente, es necesario valorar la posibilidad de constituir una nueva unidad de negocio independiente a la marca existente. Además, dicha unidad de negocio puede aprovechar la creación de nuevas estructuras, procesos y cultura para que se configure como un modelo de negocio sostenible.

La siguiente tabla detalla qué tipo de prácticas sostenibles pueden ser implementadas en las compañías en función de la fase de la evolución de la sostenibilidad corporativa en la que se encuentre. Además, las prácticas están divididas en función de los conceptos que se han desarrollado previamente en esta tesis, en el que quedan enmarcadas. En algunos casos se distingue entre las prácticas que debe llevar a cabo una compañía en función de si sigue una estrategia de diferenciación o de costes:

Tabla 6.1: Tipología de prácticas sostenibles que pueden ser implementadas en las compañías en función de la fase de la evolución de la sostenibilidad corporativa en la que se encuentren.

PROCESO DE TOMA DE DECISIONES								
FASE	SOSTENIBILIDAD HOLÍSTICA		MODELOS DE NEGOCIO SOSTENIBLES		METODOLOGÍAS SOSTENIBLES		OPERACIONES SOSTENIBLES	
	Diferenciación	Costes	Diferenciación	Costes	Diferenciación	Costes	Diferenciación	Costes
1	Anticipación a la normativa. Publicación de memorias de sostenibilidad Emplear Mejores Tecnologías Disponibles y testear nuevas tecnologías y procesos para sustituir productos que serán regulados							
2	Impulsar a los proveedores a aplicar prácticas sostenibles				Obtención de certificados como ISO 14001, EMAS, BCorp, declaraciones ambientales, etc. Usar metodología como los GRI o ODS (especialmente para la		Rediseñar las líneas de producción para incrementar la eficiencia operativa.	Aplicación de tecnologías maduras que reduzcan el consumo de

				elaboración de memorias de sostenibilidad o EINF).		materias primas y energías (p.e. placas solares).
					Encontrar soluciones innovadoras para los productos usados.	
3	Contar con directivos y/o mandos intermedios cuya función sea impulsar la sostenibilidad en la empresa. Desarrollo de relaciones con otros stakeholders (competidores, ONGs, Administraciones Públicas) y creación de asociaciones empresariales.		Protocolizar el proceso de toma de decisiones para integrar la sostenibilidad en varios departamentos. Establecer objetivos a directivos y mandos intermedios orientados a la sostenibilidad. Creación de nuevas unidades de negocio independientes	Uso de metodologías como: - Value mapping tool - Environmental Purpose Strategies - Análisis de Ciclo de Vida - S.R.O.I. (Sustainable Return On Investment) - ROSI tool	Implementar acciones de logística sostenible. Invertir en flota de vehículos eléctricos. Desarrollo de tecnología que reduzca el impacto ambiental de los productos a lo largo de su ciclo de vida.	Uso de tecnología madura y coste-efectiva para reducir el impacto ambiental del producto.
4	Contar con una cultura de empresa orientada a la sostenibilidad. La sostenibilidad forma parte del proceso de toma de decisiones de cada una de los departamentos de la empresa (desde compras, I+D a logística y producción). *P.e. empresas y fondos de inversión de impacto*		Uso de un sistema de gestión ambiental. Análisis de tendencias del consumidor. Generación de valor a través de la sostenibilidad entre departamentos. *P.e. los modelos de negocio sostenible suelen seguir estrategias de diferenciación, excepto los vinculados a las energías renovables*	Sistemas de medición del desempeño ambiental y social. Sistemas de medición de impacto. Teoría del Cambio.	Impulso a los proveedores para que generen su propia tecnología e I+D enfocada a la sostenibilidad.	

Fuente: Elaboración propia

Actualmente, la Unión Europea en su objetivo de descarbonización de la economía, ha planteado un paquete de medidas regulatorias para que las compañías reduzcan sus emisiones con el fin de

conseguir un continente neutro en carbono en 2050 (Comisión Europea). Este hecho está impulsando a que cada vez más compañías se vean obligadas a reportar su desempeño ambiental y social (en España esto deriva de la Ley 11/2018 de divulgación de información no financiera [12]). La divulgación de la información no financiera obliga a las organizaciones a llevar a cabo un ejercicio de reflexión para determinar hasta qué grado aplican prácticas sostenibles y, además, les permite conocer las prácticas presentes entre sus competidores y compañías de otros sectores.

Sin embargo, en un estudio realizado a una serie de empresas que habían aplicado una serie de prácticas sostenibles, se identificó que el 73,8% de ellas se encontraban entre la fase 2 (cadena de valor sostenible) y la fase 3 (prácticas eco-innovadoras) (Sanchez-Planelles & Segarra-Oña, 2019). Tras el estudio de casos realizado, se ha detectado que uno de los principales factores que permite a las compañías conseguir niveles superiores de integración de la sostenibilidad en su modelo de negocio es el impulso por parte de la dirección. Ya que este hecho permite que los diferentes responsables de departamento y mandos intermedios no solo asuman responsabilidades asociadas a la sostenibilidad, sino que su colaboración con homólogos de otras áreas de las organizaciones facilita que el valor generado a través de las prácticas sostenibles fluya entre las diferentes actividades que acometen.

Además de contar con el impulso de la dirección, el hecho de contar con una estrategia climática o de integración de la sostenibilidad con una serie de objetivos fijados, indicadores de seguimiento y personas responsables, permite que el proceso de avance hacia fases donde la integración de la sostenibilidad sea mayor se produzca de una manera más exitosa. Especialmente entre las compañías que cuentan con un elevado número de empleados, ya que este hecho facilita que la sostenibilidad siempre sea una variable a tener en cuenta en los diferentes procesos de toma de decisiones. Es decir, se protocoliza la implementación de prácticas sostenibles mediante su integración en la jerarquía de la compañía.

Otro campo de trabajo que las compañías abordan cuando se encuentran en las fases más avanzadas de integración de la sostenibilidad es exigir a sus proveedores y otros grupos de interés que también asuman compromisos relacionados con el desarrollo sostenible. Las primeras acciones que se suelen acometer se basan en la solicitud de certificados que demuestren la concienciación ambiental y social que presentan sus proveedores, por ejemplo, a través de la exigencia de que cuenten con la ISO 14001. No obstante, para aquellas compañías cuyas cadenas de suministro se extienden hasta países en vías de desarrollo, este control de gestión sobre proveedores exige una labor más exhaustiva que la solicitud de certificados, ya que en estos casos intervienen departamentos de 'compliance' o jurídicos para validar que efectivamente las

[12] Ley 11/2018, de 28 de diciembre, por la que se modifica el Código de Comercio, el texto refundido de la Ley de Sociedades de Capital aprobado por el Real Decreto Legislativo 1/2010, de 2 de julio, y la Ley 22/2015, de 20 de julio, de Auditoría de Cuentas, en materia de información no financiera y diversidad.

compañías trabajan con criterios ambientales y sociales no solo legítimos, sino además, alineados con el propósito de la compañía.

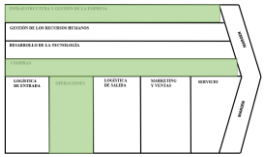
Teniendo en cuenta lo expuesto previamente, a continuación se muestra un diagrama que resume el proceso de integración de sostenibilidad recomendado en las compañías (figura 6.2):

Figura 6.2: Resumen del proceso de integración de sostenibilidad en organizaciones empresariales.

FASE 1: Aprovechar las oportunidades de la legislación ambiental

La dirección debe impulsar el cambio de cultura hacia la concienciación ambiental y social para que impregne todos los niveles organizativos.

FASE 2: Creación de una Cadena de Valor Sostenible



Los directivos y responsables departamentales deben aplicar prácticas eco-innovadoras que cuenten con una fácil implementación y una rentabilidad a corto plazo para afianzar la cultura sostenible entre el equipo.

Identifica certificados verdes que encajen con la actividad de la empresa (p.e. ISO 14001, declaración ambiental de producto, etc.)

Se deben llevar a cabo análisis de mercado para conocer las tendencias sostenibles sectoriales.

FASE 3: Diseño de prácticas eco-innovadoras

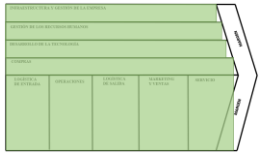
Desde dirección debe iniciarse un proceso de protocolización de la sostenibilidad para integrarla en el proceso de toma de decisiones, es recomendable contar con el apoyo de un sistema de gestión ambiental.

Se deben establecer objetivos sostenibles a cumplir por cada departamento (p.e. reducción de emisiones, consumo de energía renovable, etc.)

Los departamentos deben estar coordinados para que la sostenibilidad genere valor a través de los flujos interdepartamentales.

En caso de detectar una potencial línea de negocio que no encaja con la estrategia que sigue la empresa, se debe valorar la constitución de una nueva sociedad con su propia marca, directivos, procesos, etc. que se diseñe desde el inicio como un modelo de negocio sostenible.

FASE 4: Modelo de Negocio Sostenible

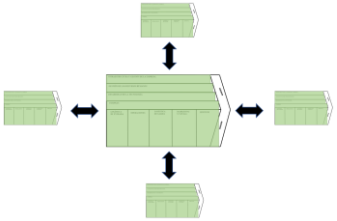


Los modelos de negocio sostenible suelen estar vinculados a productos y servicios diferenciados. Corren el riesgo de que las empresas existentes y maduras en el mercado desarrollen suficientemente la tecnología para poder ofrecer ese tipo de servicios a un menor coste y erosionar la cuota de mercado de la compañía.

Se debe desarrollar tecnología para continuar lanzando nuevos productos eco-innovadores y facilitar su acceso a segmentos de mercado con menor poder adquisitivo.

Se debe contar con una serie de sistemas de medición del desempeño ambiental y social o de impacto, que demuestre que son organizaciones que promueven la mejora del medio ambiente y de la sociedad (p.e. certificado Bcorp).

FASE 5: Nuevas plataformas de negocio



Se trata de ecosistemas empresariales en que todos los stakeholders son modelos de negocio sostenibles, desde proveedores a los fondos de inversión (denominados fondos de inversión de impacto).

Actualmente no se tiene constancia de verdaderos ecosistemas empresariales que puedan ser considerados nuevas plataformas de negocio.

Fuente: Elaboración propia.

Finalmente, esta tesis pretende servir como herramienta para todos aquellos responsables de las compañías o expertos externos que necesiten acometer acciones enfocadas a generar valor a través de la sostenibilidad. De manera que permita mejorar el proceso de decisión del tipo de práctica sostenible con el fin de generar el mayor rendimiento posible mediante un eficiente uso de recursos.

Por otra parte, desde el punto de vista académico, esta investigación tiene la intención de generar una línea de trabajo a la que espera que se sumen nuevos investigadores que permitan continuar avanzando en el desarrollo de la Teoría de la Sostenibilidad Corporativa hacia la fase prescriptiva con el fin de que este campo de investigación siga avanzando.

En cuanto a las implicaciones o potencial influencia que pueda tener esta investigación sobre las Administraciones Públicas, esta tesis permite que las herramientas de análisis y diagnóstico desarrolladas sirvan como orientación en la elaboración de políticas públicas y concesión de ayudas a compañías y clústeres empresariales. En concreto, la tipología de políticas públicas que se diseñen para que las compañías adopten prácticas sostenibles deberán tener en cuenta a qué sectores van dirigidas y en qué fase de integración de la sostenibilidad se encuentra el grueso de las compañías de cada sector. De manera que la efectividad de dichas políticas se constatará conociendo el número de organizaciones que avanzan a lo largo de las fases de evolución de la sostenibilidad corporativa.

Por último, este trabajo ha ahondado en el proceso de integración de la sostenibilidad desde un punto de vista de transformación empresarial. Sin embargo, actualmente existen diversos sistemas de medición que permiten monitorizar el desempeño ambiental y social de las compañías con el fin de poder mejorar el proceso de toma de decisiones. Por ejemplo, los inversores emplean determinados estándares de medición durante su proceso de inversión (Fiaschi, et al., 2020). Por lo que la implementación de prácticas sostenibles debe ir acompañada de sistemas de medición que evalúen la consecución de los objetivos. Así pues, se recomienda que los sistemas elegidos sean aquellos de mayor aceptación con el fin de ser capaces de replicar los resultados y obtener un elevado nivel de comparabilidad.

6.2 LIMITACIONES

Las principales limitaciones de esta investigación se basan en el número de empresas analizadas. Aunque en el estudio de casos se seleccionaron empresas de sectores diferentes para contar con una muestra heterogénea, para poder mejorar el análisis realizado se deberían analizar varias empresas de diferentes sectores.

Además, resulta necesario estudiar de manera cualitativa a los competidores de las empresas analizadas para determinar hasta qué punto las prácticas aplicadas por éstos han influido en el proceso de integración de la sostenibilidad en las compañías estudiadas.

Adicionalmente, cabe destacar que las conclusiones deben considerarse teniendo en cuenta que pueden existir ciertos factores moderadores que influyan de manera diferente a cada tipología de empresa.

6.3 FUTURAS LÍNEAS DE INVESTIGACIÓN

La presente tesis doctoral pretende servir de ayuda a aquellos investigadores y responsables de compañías a la hora de analizar a las organizaciones para determinar el proceso de integración de la sostenibilidad a través de la construcción de una Teoría de la Sostenibilidad Corporativa.

Sin embargo, también aspira a abrir nuevas líneas de investigación que ayuden a seguir avanzando en el proceso de construcción de la teoría e identificar anomalías que incrementen el nivel de sofisticación y de prescripción de la misma.

Por tanto, se propone ampliar el estudio de casos a empresas de diferentes sectores para determinar si los resultados de las prácticas sostenibles dependen de factores relacionados con las dinámicas sectoriales y no solo de las propias dinámicas de mercado.

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CAPÍTULO 7:

ANEXOS

7.1 ÍNDICES DE IMPACTO

7.1.1 Índice de impacto de “Sustainability” y “Corporate Social Responsibility and Environmental Management” extraído de Journal Citation Reports™ de Clarivate™.

2020 Journal Performance Data for: Sustainability

Open Access since 2009

ISSN
N/A

EISSN
2071-1050

JCR ABBREVIATION
SUSTAINABILITY-BASEL

ISO ABBREVIATION
Sustainability

Journal Information

EDITION
Social Sciences Citation Index (SSCI)
Science Citation Index Expanded (SCIE)

CATEGORY
GREEN & SUSTAINABLE SCIENCE & TECHNOLOGY - SCIE
ENVIRONMENTAL STUDIES - SSCI
ENVIRONMENTAL SCIENCES - SCIE
GREEN & SUSTAINABLE SCIENCE & TECHNOLOGY - SSCI

LANGUAGES
English

REGION
SWITZERLAND

1ST ELECTRONIC JCR YEAR
2013

Publisher Information

PUBLISHER
MDPI

ADDRESS
ST ALBAN-ANLAGE 66, CH-4052 BASEL, SWITZERLAND

PUBLICATION FREQUENCY
24 issues/year

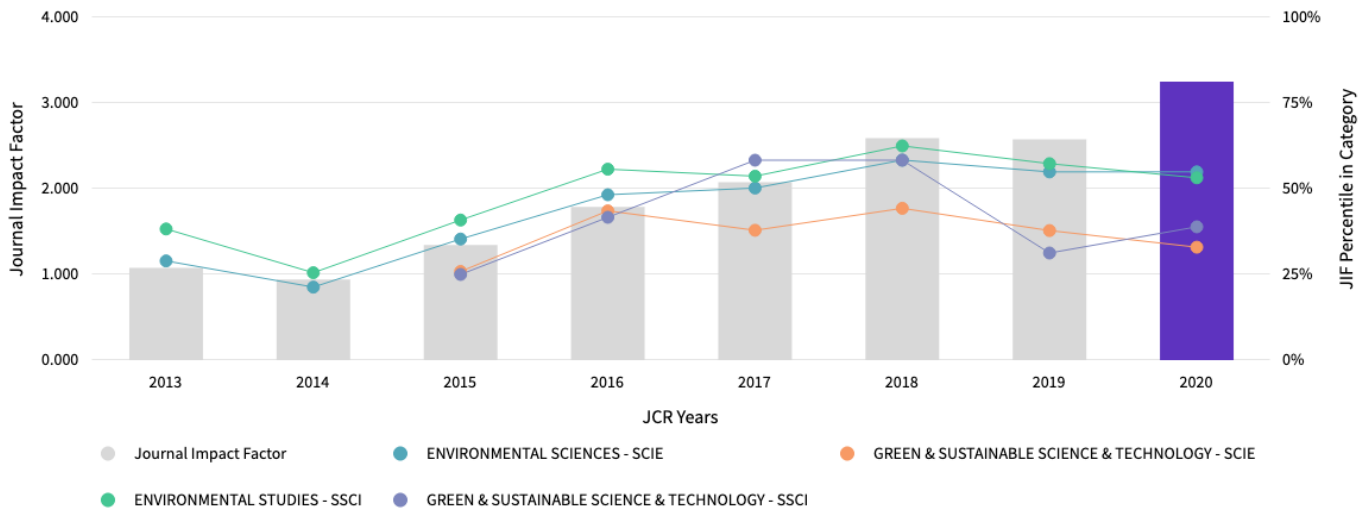
Journal's Performance

Journal Impact Factor

The Journal Impact Factor (JIF) is a journal-level metric calculated from data indexed in the Web of Science Core Collection. It should be used with careful attention to the many factors that influence citation rates, such as the volume of publication and citations characteristics of the subject area and type of journal. The Journal Impact Factor can complement expert opinion and informed peer review. In the case of academic evaluation for tenure, it is inappropriate to use a journal-level metric as a proxy measure for individual researchers, institutions, or articles.

2020 JOURNAL IMPACT FACTOR	2020 JOURNAL IMPACT FACTOR WITHOUT SELF CITATIONS
3.251	2.355

Journal Impact Factor Trend 2020



Journal Impact Factor is calculated using the following metrics

Citations in 2020 to items published in 2018 (**18,186**) - 2019 (**20,818**)	=	**39,004**	=	**3.251**
Number of citable items in 2018 (**4,815**) + 2019 (**7,184**)		**11,999**		

Journal Impact Factor without self cites is calculated using the following metrics

Citations in 2020 to items published in 2018 (**18,186**) + 2019 (**20,818**) - Self Citations in 2020 to items published in 2018 (**4,066**) + 2019 (**6,677**)	=	**39,004 - 10,743**	=	**2.355**
Number of citable items in 2018 (**4,815**) + 2019 (**7,184**)		**11,999**		

Rank by Journal Impact factor

Journals within a category are sorted in descending order by Journal Impact Factor (JIF) resulting in the Category Ranking below. A separate rank is shown for each category in which the journal is listed in JCR. Data for the most recent year is presented at the top of the list, with other years shown in reverse chronological order.

EDITION

Science Citation Index Expanded (SCIE)

CATEGORY

ENVIRONMENTAL SCIENCES

124/274

JCR YEAR	JIF RANK	QUARTILE	JIF PERCENTILE
2020	124/274	Q2	54.93
2019	120/265	Q2	54.91
2018	105/251	Q2	58.37
2017	121/242	Q2	50.21
2016	119/229	Q3	48.25
2015	146/225	Q3	35.33
2014	176/223	Q4	21.30
2013	154/216	Q3	28.94

EDITION

Social Sciences Citation Index (SSCI)

CATEGORY

ENVIRONMENTAL STUDIES

59/125

JCR YEAR	JIF RANK	QUARTILE	JIF PERCENTILE
2020	59/125	Q2	53.20
2019	53/123	Q2	57.32
2018	44/116	Q2	62.50
2017	51/109	Q2	53.67
2016	47/105	Q2	55.71
2015	62/104	Q3	40.87
2014	75/100	Q3	25.50
2013	61/98	Q3	38.27

EDITION

Social Sciences Citation Index (SSCI)

CATEGORY

GREEN & SUSTAINABLE SCIENCE & TECHNOLOGY

6/9

JCR YEAR	JIF RANK	QUARTILE	JIF PERCENTILE
2020	6/9	Q3	38.89
2019	6/8	Q3	31.25
2018	3/6	Q2	58.33
2017	3/6	Q2	58.33
2016	4/6	Q3	41.67
2015	5/6	Q4	25.00
2014	n/a	n/a	n/a
2013	n/a	n/a	n/a

EDITION

Science Citation Index Expanded (SCIE)

CATEGORY

GREEN & SUSTAINABLE SCIENCE & TECHNOLOGY

30/44

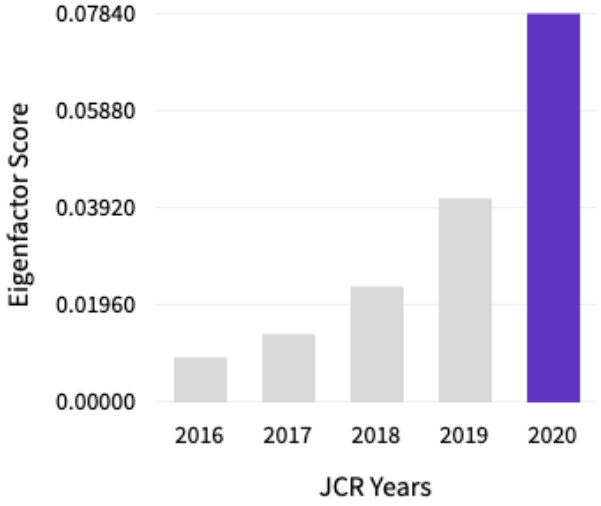
JCR YEAR	JIF RANK	QUARTILE	JIF PERCENTILE
2020	30/44	Q3	32.95
2019	26/41	Q3	37.80
2018	20/35	Q3	44.29
2017	21/33	Q3	37.88
2016	18/31	Q3	43.55
2015	22/29	Q4	25.86
2014	n/a	n/a	n/a
2013	n/a	n/a	n/a

Additional metrics

Eigenfactor score

0.07840

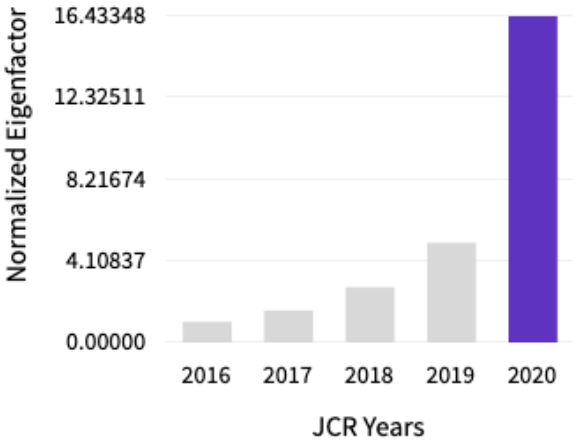
The Eigenfactor Score is a reflection of the density of the network of citations around the journal using 5 years of cited content as cited by the Current Year. It considers both the number of citations and the source of those citations, so that highly cited sources will influence the network more than less cited sources. The Eigenfactor calculation does not include journal self-citations.



Normalized Eigenfactor

16.43348

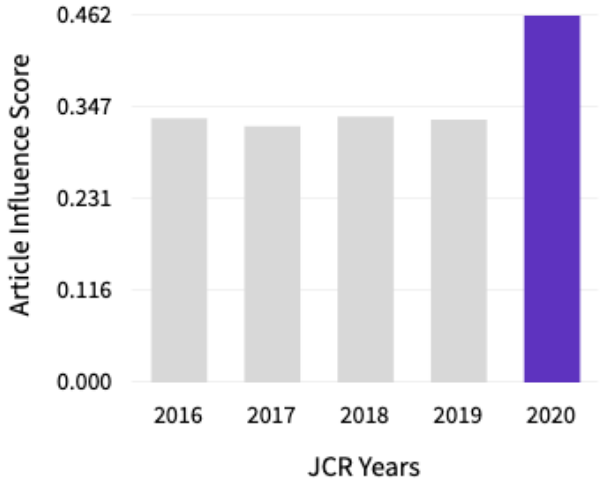
The Normalized Eigenfactor Score is the Eigenfactor score normalized, by rescaling the total number of journals in the JCR each year, so that the average journal has a score of 1. Journals can then be compared and influence measured by their score relative to 1.



Article influence score

0.462

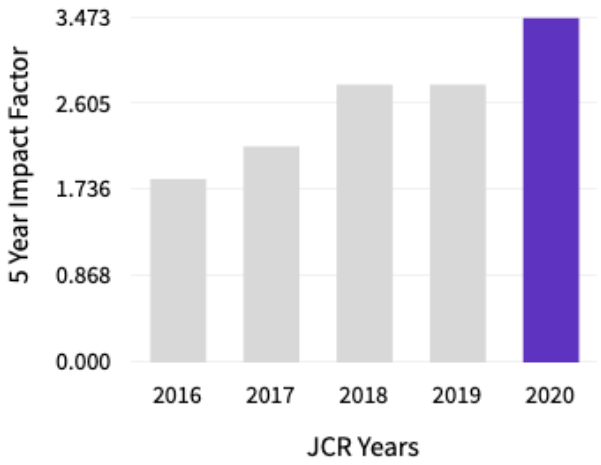
The Article Influence Score normalizes the Eigenfactor Score according to the cumulative size of the cited journal across the prior five years. The mean Article Influence Score for each article is 1.00. A score greater than 1.00 indicates that each article in the journal has above-average influence.



5 year Impact Factor

3.473

The 5-year Impact Factor is the average number of times articles from the journal published in the past five years have been cited in the JCR year. It is calculated by dividing the number of citations in the JCR year by the total number of articles published in the five previous years.



5 year Impact Factor calculation

$$\frac{\text{Citations in 2020 to items published in [2015-2019] (57,327)}}{\text{Number of citable items in [2015-2019] (16,508)}} = \frac{57{,}327}{16{,}508} = 3.473$$

2020 Journal Performance Data for: Corporate Social Responsibility and Environmental Management

ISSN
1535-3958

EISSN
1535-3966

JCR ABBREVIATION
CORP SOC RESP ENV MA

ISO ABBREVIATION
Corp. Soc. Responsib. Environ. Manag.

Journal Information

EDITION
Social Sciences Citation Index (SSCI)

CATEGORY
ENVIRONMENTAL STUDIES - SSCI
BUSINESS - SSCI
MANAGEMENT - SSCI

LANGUAGES
English

REGION
ENGLAND

1ST ELECTRONIC JCR YEAR
2010

Publisher Information

PUBLISHER
WILEY

ADDRESS
111 RIVER ST, HOBOKEN 07030-5774, NJ

PUBLICATION FREQUENCY
6 issues/year

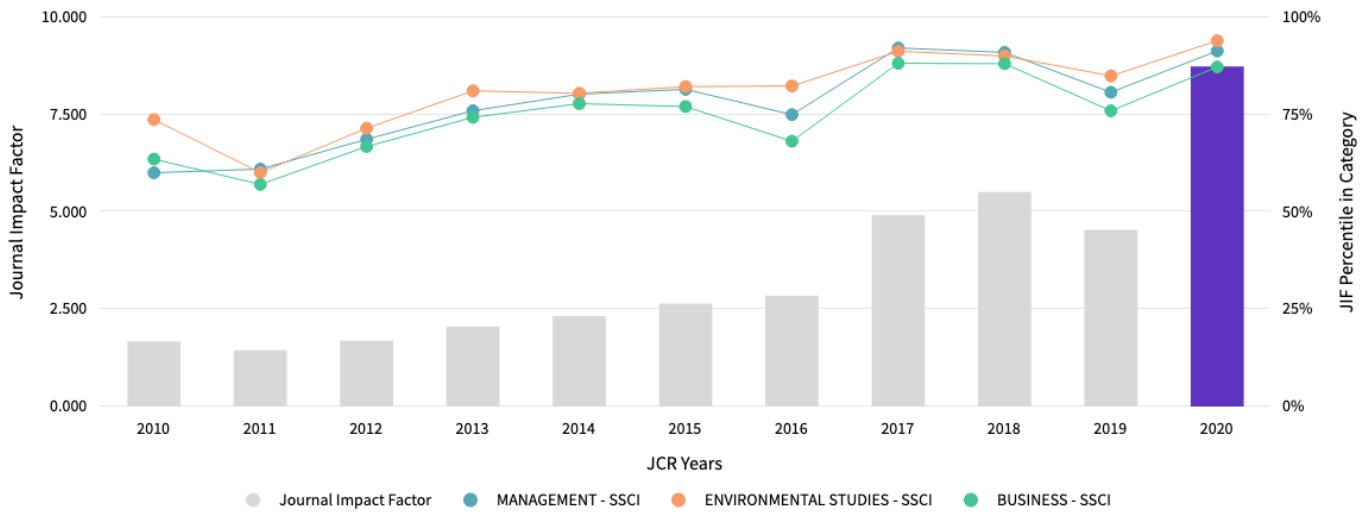
Journal's Performance

Journal Impact Factor

The Journal Impact Factor (JIF) is a journal-level metric calculated from data indexed in the Web of Science Core Collection. It should be used with careful attention to the many factors that influence citation rates, such as the volume of publication and citations characteristics of the subject area and type of journal. The Journal Impact Factor can complement expert opinion and informed peer review. In the case of academic evaluation for tenure, it is inappropriate to use a journal-level metric as a proxy measure for individual researchers, institutions, or articles.

2020 JOURNAL IMPACT FACTOR	2020 JOURNAL IMPACT FACTOR WITHOUT SELF CITATIONS
8.741	5.448

Journal Impact Factor Trend 2020



Journal Impact Factor is calculated using the following metrics

Citations in 2020 to items published in 2018 (**1,002**) - 2019 (**1,026**)	=	**2,028**	=	**8.741**
Number of citable items in 2018 (**107**) + 2019 (**125**)		**232**		

Journal Impact Factor without self cites is calculated using the following metrics

Citations in 2020 to items published in 2018 (**1,002**) + 2019 (**1,026**) - Self Citations in 2020 to items published in 2018 (**356**) + 2019 (**408**)	=	**2,028 - 764**	=	**5.448**
Number of citable items in 2018 (**107**) + 2019 (**125**)		**232**		

Rank by Journal Impact factor

Journals within a category are sorted in descending order by Journal Impact Factor (JIF) resulting in the Category Ranking below. A separate rank is shown for each category in which the journal is listed in JCR. Data for the most recent year is presented at the top of the list, with other years shown in reverse chronological order.

EDITION

Social Sciences Citation Index (SSCI)

CATEGORY

BUSINESS

20/153

JCR YEAR	JIF RANK	QUARTILE	JIF PERCENTILE
2020	20/153	Q1	87.25
2019	37/152	Q1	75.99
2018	18/147	Q1	88.10
2017	17/140	Q1	88.21
2016	39/121	Q2	68.18
2015	28/120	Q1	77.08
2014	26/115	Q1	77.83
2013	29/111	Q2	74.32
2012	39/116	Q2	66.81
2011	49/113	Q2	57.08
2010	38/103	Q2	63.59

EDITION

Social Sciences Citation Index (SSCI)

CATEGORY

ENVIRONMENTAL STUDIES

8/125

JCR YEAR	JIF RANK	QUARTILE	JIF PERCENTILE
2020	8/125	Q1	94.00
2019	19/123	Q1	84.96
2018	12/116	Q1	90.09
2017	10/109	Q1	91.28
2016	19/105	Q1	82.38
2015	19/104	Q1	82.21
2014	20/100	Q1	80.50
2013	19/98	Q1	81.12
2012	27/93	Q2	71.51
2011	36/89	Q2	60.11
2010	21/78	Q2	73.72

EDITION

Social Sciences Citation Index (SSCI)

CATEGORY

MANAGEMENT

20/226

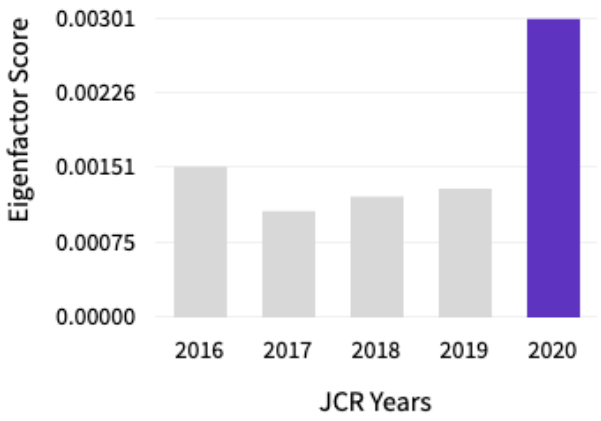
JCR YEAR	JIF RANK	QUARTILE	JIF PERCENTILE
2020	20/226	Q1	91.37
2019	44/226	Q1	80.75
2018	20/217	Q1	91.01
2017	17/210	Q1	92.14
2016	49/194	Q2	75.00
2015	36/192	Q1	81.51
2014	37/185	Q1	80.27
2013	42/173	Q1	76.01
2012	55/174	Q2	68.68
2011	66/168	Q2	61.01
2010	58/144	Q2	60.07

Additional metrics

Eigenfactor score

0.00301

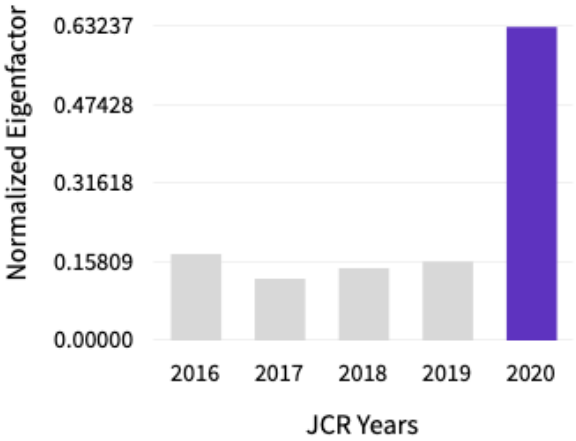
The Eigenfactor Score is a reflection of the density of the network of citations around the journal using 5 years of cited content as cited by the Current Year. It considers both the number of citations and the source of those citations, so that highly cited sources will influence the network more than less cited sources. The Eigenfactor calculation does not include journal self-citations.



Normalized Eigenfactor

0.63237

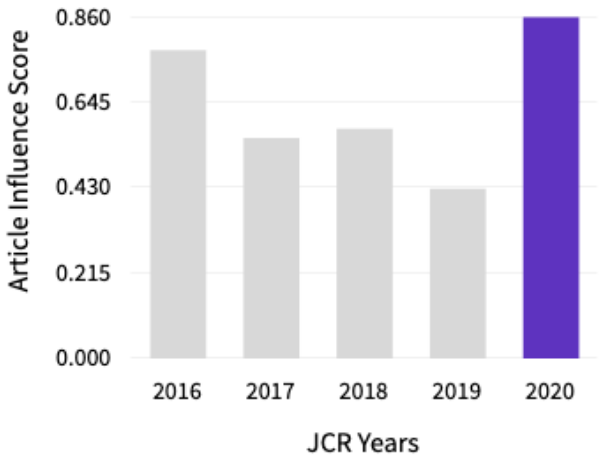
The Normalized Eigenfactor Score is the Eigenfactor score normalized, by rescaling the total number of journals in the JCR each year, so that the average journal has a score of 1. Journals can then be compared and influence measured by their score relative to 1.



Article influence score

0.860

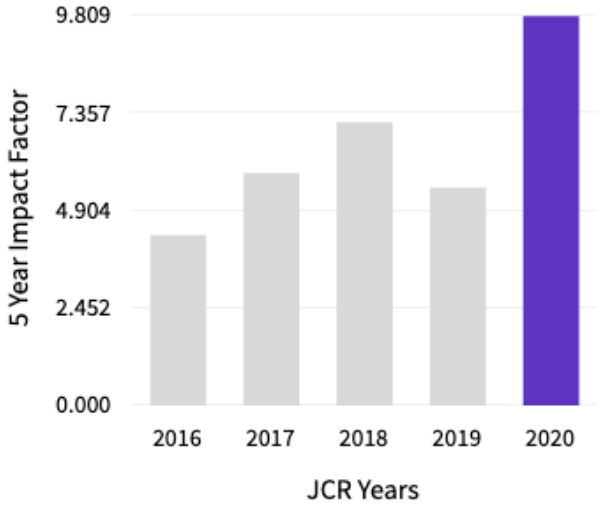
The Article Influence Score normalizes the Eigenfactor Score according to the cumulative size of the cited journal across the prior five years. The mean Article Influence Score for each article is 1.00. A score greater than 1.00 indicates that each article in the journal has above-average influence.



5 year Impact Factor

9.809

The 5-year Impact Factor is the average number of times articles from the journal published in the past five years have been cited in the JCR year. It is calculated by dividing the number of citations in the JCR year by the total number of articles published in the five previous years.



5 year Impact Factor calculation

$$\frac{\text{Citations in 2020 to items published in [2015-2019] (3,345)}}{\text{Number of citable items in [2015-2019] (341)}} = \frac{3{,}345}{341} = 9.809$$

