

INFLUENCE OF INDIVIDUAL DYNAMIC
MANAGERIAL CAPABILITIES OVER BUSINESS
SUSTAINIBILITY COMMITMENT, STAKEHOLDER
ENGAGEMENT AND GENDER

Marian Buil Fabregà

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DOCTORAL THESIS

INFLUENCE OF INDIVIDUAL DYNAMIC MANAGERIAL
CAPABILITIES OVER BUSINESS SUSTAINIBILITY
COMMITMENT, STAKEHOLDER ENGAGEMENT AND GENDER

MARIAN BUIL FABREGÀ

2017



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COMMITMENT, STAKEHOLDER ENGAGEMENT AND GENDER

MARIAN BUIL FABREGÀ

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DOCTORAL PROGRAMME IN LAW, ECONOMICS AND
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*A tots els que han fet d'aquest camí
una aventura enriquidora,
a l'inici del viatge, durant el llarg viatge,
i a prop d'aquesta primera meta,
als presents i als no presents,
(qui envien la seva força a través del vent).
I, en especial, als tres ocellets que m'han acompanyat,
Àlex , Marc i Adrià,
passat, present i futur,
avui comença un nou camí.*

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Però precisament, amb l'arribada del meu *inesperat* tercer embaràs, tot va canviar tant personal com professionalment. I, és que és davant de situacions inesperades, on la capacitat per descobrir noves oportunitats és la que fa possible el canvi i perdura al llarg del temps.

Sempre recordaré , un matí molt d'hora arribant a la feina i trobar-me amb en Llorenç Bagur pujant les escales com jo. *Fem un cafè?* I allà va ser quan vaig trobar el camí per començar a pujar la muntanya - *Gràcies Llorenç perquè sense tu res hagués estat possible. M'ho has ensenyat tot, has fet que la investigació tingui sentit i el treball d'investigació en equip sigui real. A més, m'has donat la oportunitat de conèixer a dues persones brillants que formen part d'aquesta tesi.* Per una banda, en Josep Llach, qui va accedir a dirigir-la i donar-li sentit al pla d'investigació proposat - *Gràcies Josep per les teves valuoses aportacions* -. Per altra banda, la Mar Alonso-Almeida amb qui poder compartir dues estades en el seu departament i aprendre d'ella i continuar aprenent cada dia és un regal incalculable – *Mar gracias por compartir tu conocimiento*

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LISTA DE ABREVIACIONES

IDMC.- Individual Dynamic Managerial Capabilities

ES.- Entrepreneurial Skills

IDC.- Individual Dynamic Capabilities

ALERT.- Alertness

CREAT.- Creativity

SOC COMM.- Social Commitment

ENV COMM.- Environmental Commitment

STEN.- Stakeholders Engagement

EFA.- Exploratory Factor Analysis

CFA.- Confirmatory Factor Analysis

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ABSTRACT

In today's dynamic environment, which is characterized by continuous and unpredictable changes, companies need new strategies to maintain their competitive advantage in the market, ensure long-term sustainability and consider the demands of stakeholders. The role of the manager of the company is relevant and he/she should have new capabilities to respond to new market demands. This thesis, through a survey of 339 managers using an empirical methodology based on a structural equation model, proposed as new managerial dynamic capabilities of the manager (IDMC), the entrepreneurial skills (*alertness, creativity and self-awareness*) and individual dynamic capabilities (*sensing, seizing and transforming*). The results suggest that there is a direct and positive relationship between the degree of development of the IDMC and the level of social and environmental commitment and stakeholders' commitment. It is proposed that IDMC of the manager drive their commitment to sustainability and this in turn drives engagement with stakeholders. Finally, it is analyzed for the first time, if there are gender differences in the previous relationships, resulting that women have greater social commitment and environmental sustainability than men; although, it is concluded that the company requires a top management team committed to long-term sustainability regardless of gender of its members.

Keywords: entrepreneurial skills, individual dynamic managerial capabilities, business sustainability, social commitment, environmental commitment, stakeholders' engagement, gender.

RESUM

En el complex i hostil entorn econòmic actual que acompanya des del seu inici al segle XXI, les empreses requereixen de noves estratègies, per mantenir el seu avantatge competitiu en el mercat, garantir la sostenibilitat a llarg termini i considerar les demandes de les parts interessades. En aquesta situació, el paper del manager de l'empresa és rellevant i aquest ha de disposar de noves capacitats que li permetin donar resposta a les exigències del mercat. Aquesta tesi doctoral, a través d'una enquesta realitzada a 339 mànagers utilitzant una metodologia empírica basada en un model d'equacions estructurals, proposa com a noves capacitats de gestió del manager (individual dynamic managerial capabilities- IDMC), les competències emprenedores (*alertness, creativity and self-awareness*) i les capacitats dinàmiques individuals (*sensing, seizing i transforming*). Els resultats obtinguts suggereixen que hi ha una relació directa i positiva entre el grau de desenvolupament de les IDMC i el nivell de compromís social i ambiental i amb els grups d'interès (stakeholders). Es proposa que les IDMC que posseeix el / la manager són les que impulsen el seu compromís amb la sostenibilitat i aquest al seu torn, impulsa el compromís amb els stakeholders. Finalment, s'analitza per primera vegada si hi ha diferències de gènere en les relacions anteriors, resultant que la dona disposa de més compromís tant social com mediambiental amb la sostenibilitat; si bé, es conclou que l'empresa requereix d'un equip directiu compromès amb la sostenibilitat a llarg termini independentment del gènere dels seus membres.

Paraules clau: competències emprenedores, capacitats dinàmiques individuals sostenibilitat de l'empresa, compromís social, compromís mediambiental, compromís amb els stakeholders, gènere.

RESUMEN

En el complejo y hostil entorno económico actual que acompaña desde su inicio al siglo XXI, las empresas requieren de nuevas estrategias, para mantener su ventaja competitiva en el mercado, garantizar la sostenibilidad a largo plazo y considerar las demandas de los grupos de interés (stakeholders). El papel del manager de la empresa es relevante para ello y éste debe disponer de nuevas capacidades que le permitan dar respuesta a las exigencias del mercado. Esta tesis doctoral, a través de una encuesta realizada a 339 managers utilizando una metodología empírica basada en un modelo de ecuaciones estructurales, propone como nuevas capacidades de gestión del manager (individual dynamic managerial capabilities- IDMC), las competencias emprendedoras (*alertness, creativity and self-awareness*) y las capacidades dinámicas individuales (*sensing, seizing y transforming*). Los resultados obtenidos sugieren que existe una relación directa y positiva entre el grado de desarrollo de las IDMC y el nivel de compromiso social y ambiental y con los stakeholders. Se propone que las IDMC que posee el/la manager las que impulsan su compromiso con la sostenibilidad y éste a su vez, impulsa el compromiso con los stakeholders. Finalmente, se analiza por primera vez si existen diferencias de género en las relaciones anteriores, resultando que la mujer dispone de mayor compromiso tanto social como medioambiental con la sostenibilidad; si bien, se concluye que la empresa requiere de un equipo directivo comprometido con la sostenibilidad a largo plazo independientemente del género de sus miembros.

Palabras clave: competencias emprendedoras, capacidades dinámicas individuales, sostenibilidad de la empresa, compromiso social, compromiso medioambiental, compromiso con los grupos de interés (stakeholders), género.

1. INTRODUCCIÓN GENERAL

En el entorno empresarial actual, caracterizado por cambios rápidos e impredecibles, los stakeholders cobran cada vez mayor importancia (Carroll y Buchholtz, 2014; Alonso-Almeida et al. 2015b), si cabe, en la orientación al mercado y en las políticas estratégicas de las empresas.

Desde el punto de vista de la sostenibilidad, los stakeholders se sienten más identificados con las compañías que se comprometen en los ámbitos social y ambiental, que con aquellas que adoptan una actitud pasiva o reactiva con respecto a estos temas (Chen et al., 2015). Crittenden et al. (2011) mencionan como ejemplos ilustrativos de compromiso social y ambiental la reducción del consumo de recursos escasos; la degradación del medioambiente; la gestión responsable de la cadena de suministro; la reducción del impacto en el cambio climático; la detección de una mayor conciencia de los consumidores hacia el desarrollo sostenible; el incremento de la estabilidad económica global a través de la sostenibilidad y la gestión proactiva de los procesos de la empresa para proteger el medioambiente natural.

Por lo citado hasta ahora, la literatura observa claramente que las empresas valoran cada vez más las demandas de los stakeholders, e intentan incluirlas en su estrategia (Kleiner, 2013; Lubbers, 2016). Es precisamente en este proceso de detección de demandas y de su implantación en la estrategia corporativa donde los top manager desarrollan su papel, y donde tienen su rol sus nuevas capacidades de gestión empresarial para hacer frente a los entornos dinámicos -individual dynamic managerial capabilities- (IDMC) (Kor y Mesko, 2013; Teece, 2016).

1.1. CAPACIDADES DINÁMICAS INDIVIDUALES DE GESTIÓN

Según la literatura (Augier y Teece, 2009; Hendry et. al, 2010; Schaltegger et.al, 2011; Lanza y Passarelli, 2014; Calabrese y Costa, 2015), las IDMC que

más facilitan el proceso descrito hasta ahora son, por un lado, la posesión de competencias emprendedoras por parte del mánager -entrepreneurial skills- (ES) y, por otro, sus capacidades dinámicas individuales -individual dynamic capabilities- (IDC). Precisamente este es el punto de partida de la presente tesis doctoral, cuyo principal objetivo es analizar la relación entre el grado de desarrollo de las IDMC y el nivel de compromiso social y ambiental del mánager, así como la relación de las IDMC en su compromiso con los stakeholders.

En lo que se refiere a las ES, campo ampliamente estudiado, cabe destacar que estas se describen mayoritariamente como una combinación de tres factores:

- a) Alertness. El factor de exploración y búsqueda se asocia a la competencia de estar alerta para captar nuevas oportunidades (Kirzner, I. M., 1999; Valliere, 2013).
- b) Creativity. El factor de asociación y conexión se vincula a la competencia emprendedora de proponer nuevas ideas y soluciones (Baron y Tang, 2011).
- c) Self-awareness. El factor de evaluación y juicio va ligado a la competencia emprendedora de estar preparado para cuestionar las ideas propias y ajenas (McMullen y Shepherd, 2006; Foss y Klein, 2012).

En lo que se refiere a las IDC, el concepto más novedoso introducido por Adner y Helfat (2003), es que son aquellas habilidades y competencias que debe poseer el gestor de una compañía para responder a los nuevos requerimientos del mercado (Augier y Teece, 2008, 2009; Askari, 2014; Wilden, 2013). McKelvie y Davidsson (2009), a través de un estudio del capital humano del mánager en la empresa, determinan tres tipos de capacidades dinámicas de este: capacidad para generar ideas, capacidad para generar disrupciones en el mercado e innovación, y capacidad para desarrollar nuevos productos y mercados. Por su parte, Teece (2012) remarca la importancia del mánager en la transformación de la empresa en entornos cambiantes. En estos casos, las

capacidades dinámicas se transforman en competencias propias del gerente que son definidas como:

- a) Sensing. Identificación y evaluación de las oportunidades.
- b) Seizing. Materialización de la oportunidad detectada que crea valor.
- c) Transforming. Búsqueda continua de nuevos y mejores métodos para implementar las oportunidades creando valor.

La investigación en IDC se encuentra todavía en un estadio incipiente según Helfat y Martin (2015, pág. 422). Por ello, la presente tesis doctoral pretende aportar luz a las propuestas de líneas de investigación que sugieren la búsqueda de la relación de las IDC con las dimensiones ligadas a la sostenibilidad de la empresa (Baretto, 2010; Caratolli, 2013).

1.2 SOSTENIBILIDAD EMPRESARIAL Y COMPROMISO CON LOS STAKEHOLDERS

La sostenibilidad empresarial hace referencia a la transformación del modelo de negocio donde, además de la sostenibilidad económica, se incorporan criterios ambientales y de conciencia social en la estrategia global (Larson, 2000; Kyrö, 2001; Strothotte y Wüstenhagen, 2005; Cohen y Winn, 2007; 2008; Van Passel et al., 2009; Bagur-Femenías et al. 2013; Alonso-Almeida et al., 2014).

En este sentido, Tata y Prasad (2015) afirman que la sostenibilidad abarca tres categorías: social, ambiental y humana, en las cuales influyen las percepciones y creencias de los seres humanos. La sostenibilidad social se centra en el impacto social y en los derechos humanos (Bansal, 2005). También en la mejora del bienestar de las personas y en la promoción de sociedades más responsables a través de la reducción de las desigualdades, la mejora de la calidad de vida y la preocupación por el bien común. La sostenibilidad ambiental hace referencia a la gestión ambiental de las empresas para

mantener el ecosistema natural a través de acciones como la reducción del consumo, de la contaminación en el medioambiente, y de la huella ecológica (Lindgreen et al., 2009). La sostenibilidad humana hace referencia a cómo los procesos de la empresa influyen en el desarrollo físico y mental de los miembros de la organización. Consiste en prácticas como las condiciones y las horas de trabajo o la provisión de beneficios para los miembros, como por ejemplo, la cobertura médica (Pfeffer, 2010).

Para conseguir este cambio de modelo de gestión desde una perspectiva financiera hacia un modelo de gestión sostenible, son decisivos tanto el papel del gerente de la organización como el del equipo de dirección (Adner et al., 2003; Zahra et al., 2006; Augier et al., 2009; Wilden et al., 2013; Lanza et al., 2014, Hermano et al., 2016). Para ello, los directivos deben disponer de unas IDMC que les permitan generar nuevos modelos de negocio (Calabrese y Costa 2015; Helfat y Martin, 2015; Leih, Linden y Teece, 2015; Teece, 2016).

Algunos ejemplos de ello son los nuevos mercados (Loorbach y Wijsman, 2013), los nuevos productos y servicios más social y ambientalmente responsables (Boivin et al., 2016), el acceso a nuevos mercados internacionales gracias a la implementación de normativas ambientales en la empresa (Hamilton y Webster, 2015); o el acceso a determinados nichos de mercado (como por ejemplo, los green consumer, Verain et al., 2012; 2016), entre otros. Además, las IDMC del mánager ayudan también a generar nuevos procesos internos, y a establecer nuevas relaciones con los stakeholders que aumenten el compromiso con ellos (Zahra, Sapienza y Davidsson, 2006; Teece, 2010; Lanza y Passarelli, 2014).

En este sentido, Carroll y Buchholtz (2014), en su libro *Ética, sostenibilidad y gestión de los stakeholders*, establecen que el compromiso con la sostenibilidad implica incorporar en las decisiones estratégicas de la empresa medidas de colaboración con clientes, proveedores y empleados.

Clientes, proveedores y empleados son los principales stakeholders con los cuales la empresa debe establecer relaciones para generar innovación (Carroll y Buchholtz, 2014) y, por lo tanto, deben estar incluidos dentro de la sostenibilidad de la cadena de valor (Clift y Bright, 2001; Seuring 2004; Seuring

y Müller, 2008; Carter y Easton, 2011; Alonso-Almeida et al. 2015b; entre otros). Seuring (2013) propone encontrar, como línea de investigación, la relación correcta entre las dimensiones social y medioambiental de la sostenibilidad, y conocer su impacto sobre los *supply chain performance*.

1.3 CAPACIDADES DINÁMICAS INDIVIDUALES DE GESTIÓN Y GÉNERO

Esta tesis doctoral plantea incluir también la perspectiva de género para analizar si existen diferencias que refuercen el grado de desarrollo de las IDMC y el nivel de compromiso social y ambiental. Esta inquietud está avalada por la creciente línea de investigación sobre el criterio de la masa crítica y el papel de las mujeres en los consejos de administración (Adams et al., 2004, Brammer et al., 2007, Catalyst, 2007; McKinsey, 2007; Seagly et al., 2007; Piacentini 2013; Romero y Ruiz Blanco, 2014).

La literatura es extensa en el estudio de las diferencias de sexo en los estilos de gestión y liderazgo (Cohen y Huffman, 2007; Aygün et al., 2008; Askehave y Zethsen, 2014) y el compromiso social y ambiental (Kronsell et al., 2014; Alonso-Almeida et al., 2015b; Santos et al., 2016) pero no en cuanto al peso que puede tener en relación con el individuo y estas IDMC a la hora de establecer un compromiso social y ambiental.

La literatura de género sobre gestión empresarial ha estudiado el liderazgo o forma de dirigir el negocio -considerando a la mujer como «motor de cambio» (Cohen y Huffman, 2007)- y la percepción femenina sobre los aspectos sociales y medioambientales en la empresa. Existe consenso al atribuir al hombre un liderazgo dominante que se caracteriza por el autoritarismo, el afán de poder y de estatus, y orientado a resultados económicos (Schein, 2001; O'Connor y Quinn, 2004; Godoy y Mladinic, 2009). Por el contrario, a la mujer se le asigna un liderazgo transformacional basado en los valores sociales, las relaciones interpersonales, el bienestar de los demás y la empatía (Rudman y

Clirk, 2001; Bird y Brush, 2002; Eagly y Carli, 2003, 2007; Aygün et al., 2008; Alimo-Melcalfe, 2010).

Por lo que se refiere al compromiso social y ambiental desde una perspectiva de género, la literatura previa sugiere que las mujeres tienen un compromiso social mayor que los hombres. Esto se debe a su preocupación por el bienestar de sus empleados y de la sociedad en general (Tata y Prasad, 2015; Larrieta-Rubin de Celis et al., 2015), a su compromiso con los propios valores éticos (Galbreath, 2006), a sus características sociales propias acerca del cuidado de los demás, y a la habilidad para establecer relaciones interpersonales y empatizar (Boulouta, 2013). En este sentido, existe una línea de investigación reciente que sugiere que las mujeres también tienen un mayor compromiso medioambiental que los hombres porque disponen de una mayor conciencia acerca del entorno y se identifican con él. Así lo sugieren las teorías ecofeministas (por ejemplo, las desigualdades del impacto del cambio climático (Alonso-Almeida, 2012; Alonso-Almeida et al., 2013; Eccles et al., 2014). Este grado de compromiso conduce a un grado de preocupación más alto en cuanto a la gestión ambiental en el negocio (Fernandez-Feijoo et al., 2014; Calabrese et al., 2016).

Una vez realizada la revisión de la literatura, la presente tesis doctoral desarrolla sus capítulos a través del compendio de los tres artículos que se detallan a continuación:

a) En el primer artículo, “An Explanatory Study of MBA Students with Regards to Sustainability and Ethics Commitment”, bajo la perspectiva de las ES como IDMC, se analiza si existe relación entre el grado de desarrollo de las IDMC y el nivel de compromiso social y ambiental del mánager con la sostenibilidad de la empresa.

b) En el segundo artículo, “Shedding light over Sustainable Development and Stakeholders Engagement: The role of Individual Dynamic Capabilities”, se estudia la relación entre el grado de desarrollo de las IDMC, bajo la perspectiva de las IDC, con el nivel de compromiso social y ambiental del mánager y con el nivel de compromiso con los stakeholders clave para la empresa.

c) Finalmente, el tercer artículo, “Can Individual Dynamic Managerial Capabilities influence environmental and social commitment?: Analysis from a gender perspective”, introduce la perspectiva de género y examina si las IDC influyen de distinta manera en el compromiso social y ambiental del mánager de la empresa según su sexo.

Esta tesis doctoral realiza una serie de aportaciones. En primer lugar, como novedad, es la primera investigación encontrada que relaciona el grado de desarrollo de las IDMC y el nivel de compromiso del mánager de la empresa con la sostenibilidad y su vinculación con el stakeholders engagement.

En segundo lugar, introduce la perspectiva de género en el grado de desarrollo de las IDMC y en el nivel de compromiso social y ambiental del mánager.

Finalmente, confirma empíricamente la construcción tridimensional de las IDMC, y avanza un paso más identificando el peso de cada dimensión en la formación de las IDMC.

Después de este primer apartado de introducción sobre el tema a investigar, la estructura de la presente tesis doctoral consta de seis apartados más. En el segundo se presentan los objetivos generales y específicos para cada artículo. En el tercer apartado se incluyen una descripción de la muestra y la metodología utilizada. En el cuarto se realiza la transcripción de los tres artículos que configuran los capítulos de la tesis. El quinto apartado lo forman los resultados obtenidos y sus discusiones. Por último, esta investigación finaliza con la presentación de las conclusiones generales.

2. OBJETIVOS DE LA TESIS DOCTORAL

Los objetivos de este trabajo son los siguientes:

El primer objetivo es analizar si existe relación entre el grado de desarrollo de las IDMC y el nivel de compromiso social y ambiental del mánager. Este objetivo se analiza tanto bajo la perspectiva de las ES como de las IDC en los distintos artículos que componen los capítulos de la presente tesis doctoral.

En el primer artículo se aborda este primer objetivo desde la perspectiva de las ES. Además en este mismo artículo se fija el subobjetivo de determinar el peso de cada dimensión de las ES en la configuración de las IDMC.

En el segundo artículo se analiza el primer objetivo bajo la perspectiva de las IDC. En este caso, al igual que en el primer artículo, se plantea el subobjetivo de determinar el peso de cada dimensión de las IDC en la configuración de las IDMC.

El segundo objetivo de la tesis doctoral es determinar si el compromiso social y ambiental del mánager impulsado por las IDMC tiene efecto en el nivel de compromiso con los stakeholders. Este objetivo se examina en el segundo artículo bajo la perspectiva de las IDC.

El tercer objetivo de la presente tesis doctoral es comprobar si existen diferencias significativas por razón de sexo en la relación entre el grado de desarrollo de las IDMC y el nivel de compromiso social y ambiental del mánager. Este tercer objetivo se desarrolla en el tercer artículo del presente trabajo bajo la perspectiva de las IDC.

A modo de resumen, se muestra la figura del modelo de la presente tesis doctoral:

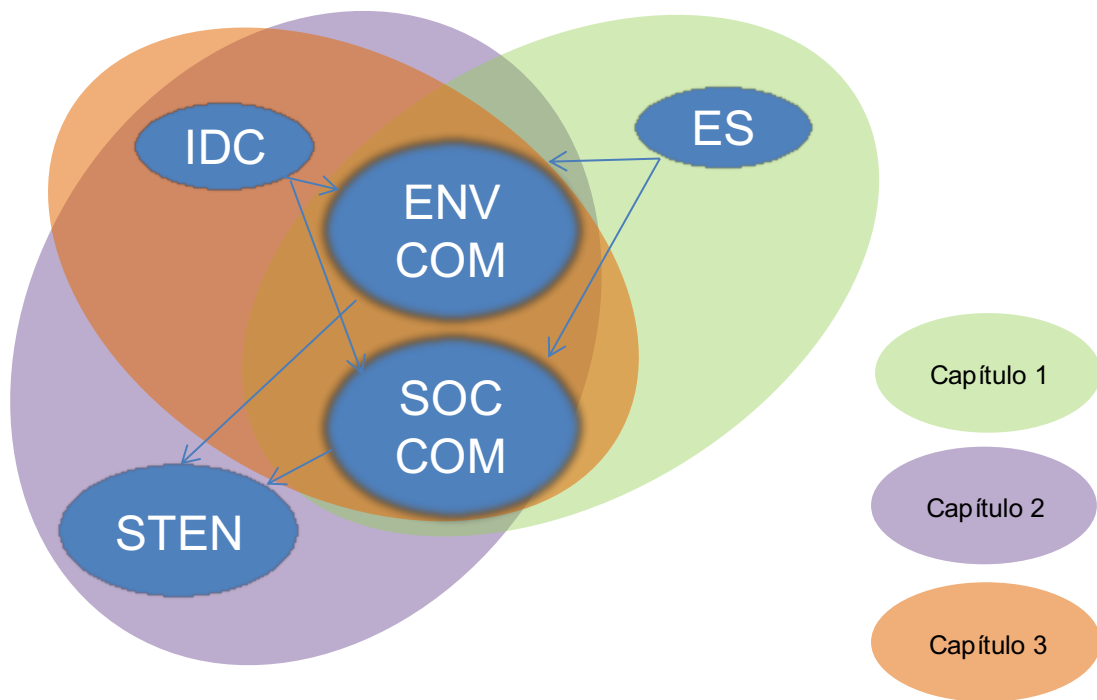


Figura 1: Modelo tesis doctoral a contrastar a través de los tres capítulos que la componen.

3. METODOLOGÍA

3.1. MUESTRA

Con el objetivo de contrastar las hipótesis anteriores se ha analizado una muestra de 339 managers que cursaron un Máster in Business Administration (MBA) en universidades españolas durante los años académicos 2013-2014 y 2014-2015. McKelvie y Davidsson (2009), concluyen como resultado de su investigación que la formación y la experiencia del manager influyen en sus capacidades dinámicas y en las decisiones que toman en sus puestos de trabajo. Las principales características de los estudiantes de la muestra en términos de formación académica, experiencia laboral o sector en el que trabajan se muestran en la siguiente Tabla 1.

	MUESTRA (35,40%) N = 339	MUJERES (36.29%) N=130	HOMBRES (64.60%) N=209
Edad: media	39	37	40
Nivel de estudios:			
- Grado universitario /licenciatura	78,17%	80,77%	76,56%
- Máster o Doctorado	19,17%	19,23%	19,14%
- Otros	2,65%	0,00%	4,31%
Experiencia laboral:			
- < 1 año	10,03%	9,23%	10,53%
- Entre 1 y 5 años	17,11%	13,85%	19,14%
- Entre 5 y 10 años	55,16%	52,31%	56,94%
- > 10 años	17,70%	24,62%	13,40%
Empleo actual:			
- Equipo directivo	66,37%	76,92%	59,81%
- Emprendedores/ otros	33,63%	23,08%	40,19%

Tabla 1: Perfil de encuestados.

Los individuos de la muestra tienen una edad media de 40 años lo que permite que más del 50% de los encuestados tengan una experiencia laboral entre los 5 y los 10 años. Además, en atención a su empleo actual cerca del 67% de las mujeres y más del 75% de los hombres han formado parte en su último empleo

del equipo directivo. Un muy elevado porcentaje de los encuestados, supera tanto para hombres como mujeres el 95%, tienen formación universitaria, que corresponde a la formación que habitualmente muestran los managers de empresas. En cuanto a la distribución por sexos, aproximadamente el 36% son mujeres y el 64% hombres, este sesgo en la muestra es coherente con una distribución desigual en el acceso a cargos directivos entre hombres y mujeres, aspecto de gran importancia y que sugiere diversas consideraciones éticas y de índole sociológica ya puestas de manifiesto previamente por la literatura (e.g. Alonso-Almeida et al., 2015b; Spanish Statistical Office, 2016).

Estos managers completaron una encuesta con diferentes ítems que trataban de valorar las diferentes capacidades que requiere un gestor de empresa así como el compromiso social y con el medio ambiente y stakeholder engagement que presentaba cada candidato. La encuesta se diseñó en base a la literatura académica previa en este ámbito (Tang et al 2012; Wilden et al 2013; Buil et al. 2015). Las respuestas a las preguntas se establecen de acuerdo con una escala de Likert con valores de 1 a 7, significando 7 el grado de identificación más alto con la pregunta planteada y el 1 el más bajo. La tabla 2 muestra los valores medios y la desviación estándar para las diferentes preguntas que permiten definir las tres competencias objeto de estudio así como su compromiso social y medioambiental.

Dimensión	Código	Definición	Media	Desviación estándar
ALERTNESS or SENSING	ALERT1	Frecuentes interacciones con terceros para adquirir nueva información	4,51	1,03
	ALERT2	Estoy atento a nuevas oportunidades de negocio	4,66	0,93
	ALERT3	Busco nueva información de forma activa	5,00	1,19
	ALERT4	Estoy permanentemente en contacto con centros de recursos (cámaras de comercio, aceleradoras, etc...)	4,23	1,15
CREATIVITY or SEIZING	CREAT1	A menudo veo de forma diferente una situación a como la ven otros	4,78	1,54
	CREAT2	A menudo me surgen nuevas ideas y enfoques a diferentes problemas	4,75	1,48
	CREAT3	Veo vínculos entre partes aparentemente sin relación	4,62	1,25
	CREAT4	Soy bueno conectando distintos puntos de vista	4,27	1,05

SELF-AWARENESS or TRANSFORMING	CONC1	Ver oportunidades de negocio es inherente a mi personalidad	4,84	1,07
	CONC2	Tengo corazonadas sobre potenciales oportunidades	3,59	1,11
	CONC3	Puedo distinguir entre oportunidades rentables y no tan rentables	4,63	1,45
SOCIAL COMMITMENT	SOC COM1	Creo firmemente en el mantenimiento del empleo y el efecto positivo de un buen clima laboral	5,81	1,52
	SOC COM2	Creo que cualquier compañía debería pagar lo mismo a personas que realizan la misma tarea	5,41	1,50
	SOC COM3	Cualquier empresa debería estar comprometida con la comunidad en la que opera	4,86	1,21
ENVIRONMENTAL COMMITMENT	ENV COM1	No entiendo un negocio si no tiene un enfoque medioambiental sostenible	5,14	1,53
	ENV COM2	Se debe formar y incentivar a empleados para fomentar iniciativas medioambientales positivas	4,66	1,32
	ENV COM3	Creo en el marketing medioambiental	4,54	1,40
	ENV COM4	Cualquier compañía debería cuantificar ahorros y costes medioambientales	5,37	1,43
STAKEHOLDERS ENGAGEMENT	STEN1	Es clave colaborar con clientes para mejorar los productos/servicios	5,33	1,29
	STEN2	El enfoque al cliente y la detección de sus necesidades debería ser un componente básico en la estrategia de cualquier organización	5,88	1,43
	STEN3	Es clave colaborar con proveedores para mejorar los productos/servicios	5,21	1,30
	STEN4	Formar e involucrar a empleados resulta clave para obtener el éxito empresarial	5,63	1,34

Tabla 2: Variables que forman parte del modelo

Los valores medios para las preguntas que forman el cuestionario muestran valores por encima de 4, para una escala de Likert de 1 a 7, en todos los casos con la excepción de una de las preguntas asociadas a la autoconciencia. Los valores de las desviaciones estándar indican cuánto pueden alejarse los valores respecto al valor medio (Moore, 1989). Los valores medios son sensiblemente superiores en las preguntas asociadas a la orientación hacia el stakeholder engagement. En cuanto al compromiso tanto social como medioambiental de los encuestados los valores medios son superiores en

todos los casos a 4 aunque existe una cierta diferencia con valores algo más elevados para el compromiso social con respecto al compromiso medioambiental.

3.2. ESTUDIO ESTADÍSTICO

En lo referente al estudio estadístico se dividió en dos partes claramente diferenciadas. Una primera cuyo objetivo es determinar, a partir de las variables que integran el cuestionario, las diferentes dimensiones que integran el modelo a contrastar. Y una segunda, una vez definidas las dimensiones, encaminada a testar mediante ecuaciones estructurales la bondad del modelo propuesto. A continuación se detallan los trabajos realizados en cada una de estas dos partes.

En la primera parte se utiliza un análisis factorial exploratorio (EFA) donde se escogen aquellas variables que mejor explican cada uno de las dimensiones que componen el modelo propuesto en cada artículo. Adicionalmente, y tal y como apunta la literatura (Loiacono et al., 2002), se eliminan del modelo aquellas variables, con cargas inferiores a 0,5. Como resultado de este primer análisis.

Una vez definida la composición de las dimensiones, cada una de ellas es sometida a un análisis factorial confirmatorio (CFA) para depurar cada constructo. Dichas dimensiones fueron sometidas al análisis de la Alpha de Cronbach superándose en todos los casos el valor de 0,7 exigido (Carmines y Zeller, 1979). Como penúltima etapa de esta primera parte se realiza un análisis de consistencia, fiabilidad y de validez convergente de las dimensiones, siendo en todos los casos la fiabilidad compuesta superior a 0,6 (Bagozzi y Yi, 1988), la varianza media extraída (AVE) superior a 0,5 y la validez convergente confirmada de acuerdo con lo establecido por Fornell y Larcker (1981). Finalmente, una vez definidas y testadas las dimensiones se procede a un análisis final de validez discriminante.

En la segunda parte mediante el software EQS 6.1 y utilizando el modelo robusto de ecuaciones estructurales, se testea la bonanza del modelo planteado en cada uno de los artículos, quedando clara la idoneidad de éste, vía la observación de los principales estadísticos.

Para estudiar si existen diferencias de género, se realiza un análisis multigrupo para el artículo tercero de la presente tesis doctoral. Seguidamente, el mismo estudio multigrupo se lleva a cabo para determinar donde se encuentran las diferencias más significativas mediante el análisis de cada relación entre las dimensiones.

4. CAPÍTULOS

La presente tesis doctoral se presenta como compendio de tres artículos las referencias de los cuales se indican a continuación:

Autores: Màrian Buil-Fabregà; Juan Pedro Aznar Alarcón, Alba Rocafort-Marco

Título: An Explanatory Study of MBA Students with Regards to Sustainability and Ethics Commitment

Journal: *Sustainability*

Status: Publicado

DOI: 10.3390/su8030280

Año, volumen, páginas: 2016, 8(3), 280

Social Science Citation Index (SSCI): I.F.:1.343, Q3, Environmental Studies 62/104

Autores: Maria del Mar Alonso-Almeida, Màrian Buil-Fabregà; Llorenç Bagur-Femenías, Juan Pedro Aznar Alarcón

Título: Shedding light over Sustainable Development and Stakeholders Engagement: The role of Individual Dynamic Capabilities

Journal: *Sustainable Development*

Status: En proceso de publicación en formato no electrónico

DOI: 10.1002/sd.1682

Año, volumen, páginas: Pendiente

Social Science Citation Index (SSCI): I.F.: 1.554, Q2, Planning & Development 17/55

Autores: Màrian Buil-Fabregà; Maria del Mar Alonso-Almeida; Llorenç Bagur-Femenías

Título: Can Individual Dynamic Managerial Capabilities influence environmental and social commitment? Analysis from a gender perspective

Status: Aceptado

DOI: Pendiente

Año, volumen, páginas: Pendiente

Science Citation Index Expanded (SCIE): I.F.: 4.959, Q1 Environmental Sciences 16/225

Article

An Explanatory Study of MBA Students with Regards to Sustainability and Ethics Commitment

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Abstract: (1) Background: The consequences of the recent economic crisis have shown the need for promoting certain key skills in future entrepreneurs to create enterprises that are capable of producing added value, generating employment and remaining solvent or growing in a competitive and highly volatile environment. Therefore, the issue is not simply a matter of creating more businesses, but rather, a model based on organizations with strong sustainable values in the long term. (2) Methods: The originality and new approach of this article is to establish, through an empirical approach, the link between the entrepreneurial skills and environmental and social commitment in times of crisis. Based on the analysis of a questionnaire answered by MBA students and using structural equation modelling, the relation between entrepreneurial skills, social and environment commitment are tested. (3) Results: The statistical analysis proved the existence of a positive relation between entrepreneurs' skills and environmental and social commitment pointing out the importance of sustainability commitment as a source of high added value activities. (4) Conclusion: The paper demonstrates that investing in the promotion of entrepreneurial skills in education systems has positive effects on how future entrepreneurs will manage their firms. Therefore, this sustainably depends on the present education policies.

Keywords: entrepreneurship skills; social commitment; environmental commitment; sustainability; ethics

1. Introduction

The consequences of the recent economic crisis have shown the need for promoting certain key skills in future entrepreneurs to create enterprises that are capable of producing added value, generating employment and remaining solvent or growing in a competitive and highly volatile environment. Such an example is the European Commission's statement, which in mid-2009, already considered that developing an economic, social and educational environment that fostered entrepreneurial skills among young people and that provided a proper environment for entrepreneurship was the main action plan to combat youth unemployment [1]. To that end, countless measures have gone into effect in Spain, with more or less success, starting with Act 14/2013 of Support to Entrepreneurs and Investors (*Ley de Emprendedores*) promoted by the Government of Zapatero and ending with a large number of programs of study and university studies adapted and more oriented to the labor market and entrepreneurship [2–4].

However, in taking a first glance at the media, one may observe that the global economic and financial crisis has resulted in a marked crisis of values, a certain lack of ethics and, in some cases, a significant disregard for the legal, environmental and even social setting [5–9].

International cases, such as Volkswagen (prosecution falsifying pollution levels in some of their models) and Lehman Brothers (product commercialization without any ethical consideration), or national cases, such as Bankia (they sold toxic financial products), highlight that, in times of crisis, certain business leaders place their self-interest above the interests of other stakeholders and, naturally, above those of the general public. They prioritize results based on individual benefits over stakeholder or customer interests, with scarce considerations in terms of sustainability or ethics. This phenomenon is the so-called short-term culture [10–13]. Therefore, the issue is not simply a matter of creating more businesses, but rather, a model based on organizations with strong sustainable values in the long term.

Confronting this dichotomy, the present study aims to clarify the effects of promoting entrepreneurial skills in future leaders and, more precisely, to observe whether, in a crisis environment, negative consequences prevail in the form of short-termism for the future entrepreneur/manager or, on the contrary, whether entrepreneurial skills have a positive effect on the future entrepreneur/manager's perception as regards managerial sustainability, which is defined as the achievement of economic goals that are socially and environmentally responsible [14–16].

A survey was developed and distributed to contrast the present theory. A total of 339 students who had taken a Master's of Business Administration (MBA) in 2013–2014 and 2014–2015 responded to this survey; they were asked about relevant aspects related to entrepreneurial skills, the commitment to the environment and the commitment to society. It is precisely in this respect that the present study adds value to the existing academic literature. [17] emphasize the scarcity of studies relating entrepreneurial skills to social and environmental values in different environments and the lack of articles focused on sustainable entrepreneurship from the perspective of the organizational leader's skills and values instead of the traditional managerial perspective.

MBA students present a suitable profile for performing this type of study, because their academic background is very diverse, and additionally, once they finish their studies, they typically perform tasks in which entrepreneurial skills are very present [18], either because some of the MBA students decide to create their own business or because they tend to be employees occupying executive positions. The analysis of aspects related to skills and entrepreneurial initiative has already been explained in prior studies with MBA students [19–22].

This article makes a series of original contributions to research conducted in different ways. First, the study analyzes the impact of entrepreneurial skills on the disposition to begin a sustainable business venture. Second, it also analyzes a group destined to be an essential part of the future business sector: MBA students. Third, it performs an empirical study in a crisis environment. Fourth, the study incorporates a methodological novelty by utilizing a second-order construct that adds the primary entrepreneurial skills to the model to contrast. Fifth and finally, it introduces future lines of research that, to date, have not been addressed and may provide useful and necessary information for a proper definition of the public policies intended to promote the creation of sustainable enterprises.

The rest of the article is organized as follows. Section 2 offers a literature review regarding entrepreneurial skills and sustainability. Section 3 describes the methodology through an empirical study. Section 4 presents a quantitative analysis. The last section of this document is devoted to the analysis of the obtained results, the conclusions based on the empirical study and the proposals for future lines of research.

2. Literature Review

2.1. Entrepreneurial Skills in a Crisis Environment

Economic crises are a recurring subject in economics [23]. They are characterized by periods of limited growth, recession or stagnation of the GDP (gross domestic product), with consequences in the distribution of resources and a range of social effects [24].

During the years 2008 and 2009, the global economy experienced its most severe financial crisis since the 1930s [25–27]. This recession led to the collapse and government bailout of some of the most important financial institutions in Europe and the U.S., in some cases, forcing the partial nationalization of these institutions, in addition to the reformulation of the main monetary and fiscal policy programs and the adoption of structural measures [28,29].

The effects of this crisis have been thoroughly studied in the literature, although there is no consensus on establishing how the economic crisis affects entrepreneurial activities. According to [24], the crisis situation may act as an agent of change for discovering new opportunities and generating innovation. However, for other authors, such as [30], crisis situations negatively affect entrepreneurial attitude, reducing the recognition of new opportunities and the investment in innovation; therefore, one of the characteristics observed is the decline in entrepreneurship in these moments of crisis [31].

Other studies regarding the crisis conclude that, in times of deep recession, businesses adopt a series of internal measures to maintain their profitability [32] and ensure their long-term survival. Some of the internal measures described by [32] are imitated by entrepreneurs who create enterprises in times of crisis [33].

In addition to the internal measures, several external factors favor the creation of enterprises in certain areas and cities, such as policies supporting entrepreneurial initiative [34]

To outline policies that foster entrepreneurship [4], one must be aware of basic competences, so that entrepreneurs can perform their role efficiently. In this context, a thorough understanding of such skills helps guide educational policies and curricula, taking into account the growing weight of the subjects and content related to the entrepreneur's skills and the entrepreneurial projects not only in business schools and economics and business faculties, but also in the field of science [2,3,21].

Due to the increasing significance of entrepreneurship in the educational system, the question that arises is which entrepreneurial skills are required and which educational approach is the best. In one of his most cited studies on entrepreneurial skills, [18] concludes that, for the entrepreneur to be successful in an entrepreneurial initiative process, he or she does not require a single skill, but a set of skills that should show a certain balance amongst them. Amongst these required competences, three major entrepreneurial skills, recognized by the academic literature, can be distinguished. [35] propose three basic skills that are necessary to perform a successful entrepreneurial task. One skill is the competency of alertness, which measures the entrepreneur's ability to recognize new business opportunities where others cannot identify them. The second is the creative competency, which measures the ability to provide a different and innovative approach when faced with a new problem; and finally, there is self-consciousness, which is a competency of self-criticism and the ability to evaluate your own ideas and the ideas of others with the aim of improving.

The available empirical evidence shows that students who possess such entrepreneurial skills generally obtain more rapid entry into the job market than those who do not possess them, added to the fact that their positions match their academic and competency-based profile, reducing youth unemployment generated by the economic crisis [4].

Therefore, based on the existing literature, the following hypotheses are proposed:

H1: Creativity is a part of the basic competencies that an entrepreneur should possess, and therefore, it has a direct and positive effect on entrepreneurial skills.

H2: Alertness is a part of the basic competencies that an entrepreneur should possess, and therefore, it has a direct and positive effect on entrepreneurial skills.

H3: Self-consciousness is a part of the basic competencies that an entrepreneur should possess, and therefore, it has a direct and positive effect on entrepreneurial skills.

2.2. Sustainability

Sustainability references the transformation of an organization's management model towards the achievement of economic goals in a socially- and environmentally-responsible manner [14,16].

Management is not any more about trying to maximize profits. Some practices by managers during the financial crisis without taking into account environmental and ethical considerations have been overwhelmingly rejected by the society. There is an increasing demand for leadership and management that considers social objectives and includes in the definition of the company aims some related to the environment. Through their innovations and business practices, businessmen and entrepreneurs with a profound sensitivity to sustainability have an impact on greater social awareness about other ways of managing and determining organizational goals [17]. The introduction of environmentally-responsible objectives and social aims into their business facilitates long-term sustainability and has positive effects on customers and society. Therefore, the term sustainable entrepreneurship has been introduced to refer to entrepreneurs who incorporate these concerns into their way of acting.

Sustainable development is characterized by activity that is less focused on models of management and technical procedures and more oriented toward personal initiative and the individual or entrepreneurial group skills to achieve corporate success and social change through social and environmental innovation [14,36]. Therefore, in addition to their entrepreneurial skills, sustainable entrepreneurs should possess an environmental and social consciousness [37]. The combination of entrepreneurial skills and environmental and social commitment enables sustainable entrepreneurs to consider their professional life as a creative act [38]. In addition, these entrepreneurs possess the capacity to modify and prioritize organizational goals so that social and environmental objectives become a relevant part of the organizational objectives. Consequently, sustainable entrepreneurship is performed by innovative businesses that offer products and services with social and environmental benefits to a specific portion of the market who value these benefits [39], for example green consumers [40].

Sustainable entrepreneurship includes both social and environmental aspects, and both have been analyzed by the existing academic literature. On the one hand, the literature on social entrepreneurship defines it as the achievement of social objectives and its financing [41–49], thus contributing to solving social problems and creating value for society [17]. On the other hand, the literature on environmental entrepreneurship defines it as the search for profitable business opportunities that solve environmental problems [50–54]. Both social and environmental entrepreneurs have effects that go beyond their business, playing the role of social change agents, as well.

This type of entrepreneurship has recently emerged as a managerial initiative that contributes to sustainable development, including both social and environmental aspects [55–59].

However, contrary to the above-mentioned literature regarding sustainability, there are certain studies that state that, in times of crisis, short-term goals related to personal survival prevail over ethical, social or environmental aspects [10–13].

Therefore, based on the contribution made by most of the existing literature, future managers should possess entrepreneurial skills and environmental and social commitment, which contribute to the sustainability of the firm. Accordingly, the following hypotheses are proposed:

H4: The entrepreneurial skills possessed by entrepreneurs have a direct and positive effect on their environmental commitment.

H5: The entrepreneurial skills possessed by entrepreneurs have a direct and positive effect on their social commitment.

To summarize, Figure 1 displays the model to be contrasted. The model suggest the existence of a relation between entrepreneurial skills that can be understood as a combination of at least three

different skills (creativity, alertness and self-consciousness); and environmental and social commitment by entrepreneurs and managers. The existence of such a relation would be important because firm performance and community welfare increase when firms make a decision and define strategies including these two dimensions.

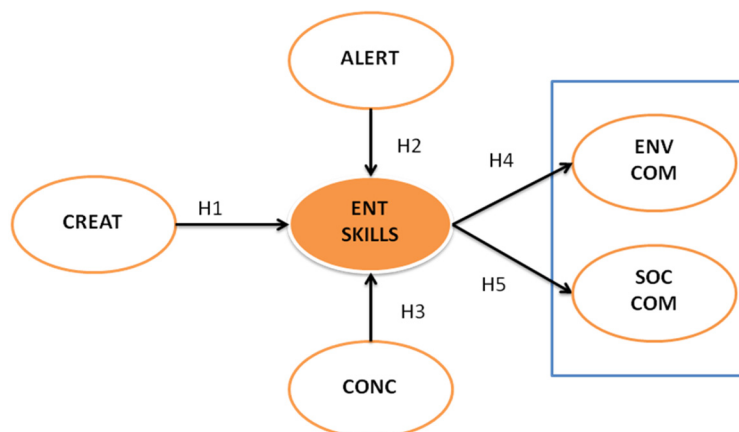


Figure 1. Model to be contrasted. CREAT, creativity; CONC, self-consciousness; ENV, environment; ENT, Entrepreneurial; SOC, social; COM, commitment.

3. Methodology

3.1. Sample and Data Collection

With the aim of contrasting the hypotheses noted above, a sample of 339 students who obtained a Master's in Business Administration (MBA) at Spanish universities during the 2013–2014 and 2014–2015 academic years has been analyzed. In the academic literature regarding entrepreneurship, it is commonplace to utilize MBA students as study subjects because these students have chosen studies that allow them to hold managerial and decision-making positions, and they are supposed to embark on entrepreneurial efforts for themselves or for others. As examples of the academic literature using MBA students to contrast the entrepreneurial hypotheses, the authors who can be cited include [19,20]. In terms of academic studies, work experience and scope of employment, the main characteristics of the students in the sample are displayed in Table 1.

Table 1. Profile of survey respondents.

Variable	N = 339
Age: mean	38
Education level:	
- University degree/Bachelor's degree	78.59%
- Master's or Ph.D.	18.24%
- Other	3.17%
Work experience:	
- <1 year	10.03%
- Between 1 and 5 years	19.77%
- Between 5 and 10 years	54.62%
- >10 years	15.58%
Current job:	
- Executive team	65.49%
- Entrepreneurs/other	34.51%

These students completed a survey composed of different items that intended to value the different skills that an entrepreneur should possess, in addition to the social and environmental commitment of each respondent, all in accordance with the relevant academic literature in this area. The design of the survey took into account prior surveys documented by the academic literature. Answers to the questions are established according to a 7-point Likert scale with values ranging from 1–7, 7 being the highest degree of identification with the proposed question. Table 2 displays the mean values for the different questions that help define the three skills under consideration and social and environmental commitment.

Table 2. Measures of the variables that form the model.

Dimension	Code	Definition	Average
Alertness	ALERT1	Frequent interactions with third parties to acquire new information	4.51
	ALERT2	I pay attention to new business opportunities	4.66
	ALERT3	I actively search for new information	5.00
	ALERT4	I maintain ongoing contact with resource centers (chambers of commerce, business incubators, etc.)	4.23
Creativity	CREAT1	My point of view is often different from that of others	4.78
	CREAT2	I often provide new ideas and approaches for different problems	4.75
	CREAT3	I see relationships between parts that are apparently unrelated	4.62
	CREAT4	I am good at connecting different points of view	4.27
Self-Awareness	CONC1	Detecting business opportunities is inherent to my personality	4.84
	CONC2	I have an intuition regarding potential opportunities	3.59
	CONC3	I can distinguish between profitable and unprofitable opportunities	4.63
Social Commitment	SOC COM1	I strongly believe in job preservation and the positive effect of a good work environment	5.81
	SOC COM2	I believe businesses should offer equal compensation to people who perform the same task	5.41
	SOC COM3	Businesses should be committed to their community	4.86
Environmental Commitment	ENV COM1	I do not understand a business that does not have a sustainable environmental approach	5.14
	ENV COM2	Employees should be trained and encouraged to promote positive environmental initiatives	4.66
	ENV COM3	I believe in environmental marketing	4.54
	ENV COM4	Businesses should quantify environmental savings and costs	5.37

3.2. Measures

The literature review has helped determine the variables that compose the model to contrast; thus, the different items have been grouped in Table 2, measuring each variable according to the items detailed below:

- Alertness (ALERT): frequent interactions with third parties to acquire new information; being alert to new business opportunities; and active search for information and ongoing contact with resource centers related to entrepreneurship, such as chambers of commerce, business incubators, universities, Research Results Transfer Offices, etc.
- Creativity (CREAT): the diversity of approaches when facing a situation; the emergence of new ideas for different problems; the ability to relate parts with no apparent connection; and the ability to connect different points of view.

- Self-consciousness (CONC): the inherent ability to recognize business opportunities; intuition regarding potential opportunities; and the ability to distinguish between profitable and unprofitable opportunities.
- Social commitment (SOC COMM): the belief in job preservation and the positive effects on the work environment; equal pay for equal work; and the commitment of the business to the community where it operates.
- Environmental commitment (ENV COMM): training and encouraging employees to promote positive environmental initiatives; the belief in environmental marketing; and quantifying business environmental savings and costs.

4. Results

The statistical analysis was divided into two distinct parts. Through a factor analysis of the survey variables, the first part aimed to determine the different dimensions that formed the model to contrast. Once the dimensions were defined, the second part aimed to test the validity of the proposed model through structural equations. The work performed in each of these parts is detailed below.

4.1. Factor Analysis

Based on an exploratory factor analysis (EFA), the variables that best explained each of the dimensions that form the model were selected. In addition, as indicated in the literature [60], the variables with values lower than 0.5 were eliminated from the model. As a result of this first analysis, it can be observed that the variables were grouped into five different dimensions.

Once the composition of the dimensions was determined, each dimension was subjected to a confirmatory factor analysis (CFA) to refine each construct. Drawing from this analysis, several factors were eliminated because they did not surpass the threshold value of 0.7 demanded by the literature, reducing the model to 18 factors and five dimensions. These dimensions were subjected to analysis through Cronbach's alpha, which in all cases surpassed the required value of 0.7 [61].

The penultimate stage for this first part was an analysis of the consistency, reliability and convergent validity of the dimensions. In all cases, the internal consistency surpassed 0.6 [62]; the average variance extracted (AVE) surpassed 0.5; and convergence validity was confirmed based on [63].

The results and main statistics from this first part may be observed in Table 3:

Table 3. Factor analysis of the dimensions. AVE, average variance extracted.

Dimension	Code	CFA	Internal Consistency and Reliability Statistics
Alertness	ALERT1	0.767	Cronbach's alpha: 0.828 Composite reliability: 0.878 AVE: 0.642
	ALERT2	0.803	
	ALERT3	0.812	
	ALERT4	0.822	
Creativity	CREAT1	0.756	Cronbach's alpha: 0.809 Composite reliability: 0.871 AVE: 0.629
	CREAT2	0.784	
	CREAT3	0.816	
	CREAT4	0.815	
Self-Awareness	CONC1	0.781	Cronbach's alpha: 0.812 Composite reliability: 0.829 AVE: 0.618
	CONC2	0.776	
	CONC3	0.802	
Social Commitment	SOC COM1	0.763	Cronbach's alpha: 0.821 Composite reliability: 0.837 AVE: 0.631
	SOC COM2	0.808	
	SOC COM3	0.812	
Environmental Commitment	ENV COM1	0.796	Cronbach's alpha: 0.808 Composite reliability: 0.867 AVE: 0.620
	ENV COM2	0.777	
	ENV COM3	0.785	
	ENV COM4	0.791	

Finally, once the dimensions were defined and tested, a final discriminant validity analysis was conducted, demonstrating in all cases that each construct was more related to its own dimensions rather than to the dimensions of the other constructs. Table 4 shows the statistics that confirm this situation.

Table 4. Discriminant validity.

	Alert	Creat	Conc	Soc Com	Env Com
Alert	0.801 *				
Creat	0.488	0.793 *			
Conc	0.315	0.311	0.786 *		
Soc Com	0.598	0.402	0.546	0.795 *	
Env Com	0.253	0.411	0.186	0.304	0.787 *

* Square root of the AVE in the diagonal.

4.2. Contrast of the Model

Via EQS 6.1 software (Multivariate Software, Inc., Temple City, CA, USA) and utilizing the robust model of structural equations, the validity of the proposed model was tested, confirming its aptitude through the observation of the main statistics. According to the literature, [64] establish that having three statistics available among the recommended values is sufficient to test the validity and the explanatory ability of the defined models in accordance with this methodology. This model surpasses the minimum requirements, proving the model's robustness and explanatory power. Table 5 shows the results for the main statistics and their ideal values according to the literature.

Table 5. Main statistics.

Statistics	Result	Ideal Value
χ^2 /degrees of freedom	2.730	<3
BB-NFI (Bentler–Bonnet normed fit index)	0.863	>0.8
BB-NNFI (Bentler–Bonnet non-normed fit index)	0.919	>0.9
CFI (comparative fit index)	0.921	>0.9
RMSEA (root mean square error of approximation)	0.082	<0.06

* Satorra–Bentler-scaled chi-square.

To conclude the section regarding the results and as a summary, Figure 2 represents the model and the statistics of the causal relationships derived from this model.

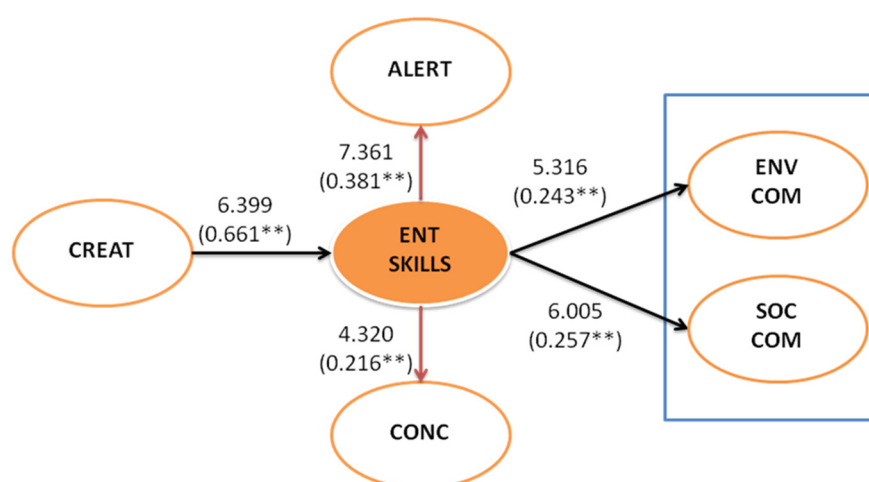


Figure 2. Standardized solution of the causal model. ** p -value significant at the 0.05 level.

5. Analysis of the Results and Conclusions

The statistical analysis validates all of the hypotheses proposed in the present study. First, it is important to highlight that, as suggested by [35], entrepreneurial skills, *i.e.*, creativity, alertness and self-consciousness, have a strong presence in future entrepreneurs, mainly the skills of creativity and awareness. The obtained results prove the validity of Hypotheses H1, H2 and H3 and reaffirm the results obtained in other works, such as that by [24]. Future business leaders who were trained in times of crisis possess a greater ability to detect new business opportunities that were most likely not previously considered [37]. In addition, the present study seems to indicate that the subjects of the study have developed an inherent ability to solve problems and face difficult situations by applying differential perspectives as a consequence of an adverse environment. It seems logical that, in a crisis environment where adversities prevail over good news, any actor who works efficiently in this environment can develop the required skills to confront these problems. In this manner, creativity prevails as a basic entrepreneurial skill in hostile environments.

Everything seems to indicate that educational policies, such as reorienting programs of study and public policies for entrepreneurial development, have at least managed to maintain the main entrepreneurial skills in business leaders and future entrepreneurs, despite the adverse effect that the crisis could cause on these individuals, as noted in the literature [4,65–68].

However, the main contribution of the present study lies in the fact that it confirms that entrepreneurial skills are positively related to a greater environmental commitment and socially responsible management. The statistical analysis validates Hypotheses H4 and H5, which assert the existence of a positive relationship between entrepreneurial skills and entrepreneurs' social and

environmental commitment. Therefore, it is clear that future leaders bet on sustainability as a business model and that the crisis did not make them eliminate these two ethical values from their business scope. The present study cannot claim that the crisis was beneficial or detrimental to social and environmental commitment, given that the methodology applied and the available data do not allow such an analysis. However, the study can affirm that the crisis has not affected these basic values and can also affirm that entrepreneurial skills have a positive effect on management as regards business ethics.

Environmental commitment and a business that takes into account social aspects represent significant positive externalities and are aligned with a growing opinion trend in favor of another type of resource management, wherein general interests prevail over self-interest. It involves a social commitment demanded by a growing fraction of the population, for whom consumers or workers value a business commitment beyond the generation of profits. The increasing significance of corporate social responsibility is a clear example of this trend.

The obtained results allow for certain recommendations that can guide decisions on educational policies and continuing training. On the one hand, there is the need for programs of study and teaching methodologies that take into account the promotion of entrepreneurial skills, in addition to the necessary reflection on the social and environmental implications of the different types of management. On the other hand, in the current context of continuous change, growing youth unemployment and economic crisis, continued training becomes a relevant tool. The opportunity cost associated with the use of these resources implies the need for managerial efficiency. The results of this study suggest that training in entrepreneurial skills could improve students' abilities to find a job or start a business venture [4] and also helps them to manage businesses following the values demanded by our society. Consumers are demanding from companies that the firm has behaved considering its environmental and social impact [69], but also, there is an increasing number of rules and new regulations that push in favor of this commitment (World Business Council for Sustainable Development, 2000 [70]). The balance between regulation and consumers' demands depends on the cultural and social context. Europe is a clear example with some common regulations according to the European Union regulation, but different pressure from consumers depending on the country.

Public policies will increasingly take into account the UN sustainable development goals. Entrepreneurs have to consider that our cities and communities must be sustainable, be aware of the climate change effects of our decisions in terms of productive process and consumer behavior and the importance of reducing social inequalities, for instance facilitating access to new technologies, or education to everyone, or to promote gender equality inside the organizations. The way we teach our future managers needs to include that they learned how to take into account these items in their decision-making process. These development goals do not only apply to education, the industrial policy designed to support the growth of small and medium-sized companies also will consider the contribution of these firms to the goals of common society.

This study invites future studies on the subject. For example, it might be interesting to add other constructs to the model, more precisely in its final section, analyzing the effect of entrepreneurial skills not only on social and environmental commitment, but also on the commitment to quality management practices, fulfilling the triple bottom line business model. Another possibility might be to segment the sample by gender or source study to detect possible differences between sub-samples.

Finally, it is important to note that this study is subject to the limitations of the methodology employed. The main limitation resides in the fact that the surveys were conducted in a certain area; thus, it might be difficult to extrapolate the results to other countries due to the different economic situations or legal environments.

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Shedding light over Sustainable Development and Stakeholders Engagement: The role of Individual Dynamic Capabilities

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Review

Shedding light over Sustainable Development and Stakeholders Engagement: The role of Individual Dynamic Capabilities

1. Introduction

The global economic and financial crisis has shown that increasing volatility and growing challenges, such as climate change and terrorism, require the development of new skills in the people who run organizations to address current and future challenges (Augier and Teece 2009; Teece 2012; Alonso-Almeida, Fernández de Navarrete and Rodríguez-Pomeda, 2015a). Therefore, the complexity of the current environment requires new organizations with a leadership with new capabilities (Wilden, Gudergan, Nielsen and Lings, 2013; Al-Aali and Teece, 2014; Lanza and Passarelli, 2014).

In this context, the theory of dynamic capabilities becomes relevant. Reviews of the literature on dynamic capabilities by Di Stefano, Peteraf, and Verona (2009), Barreto (2010), and Carattoli (2013) highlight the lack of consensus on the definition and nature of dynamic skills and propose future lines of research to consolidate their conceptualization as an aggregate multidimensional construct. As an item on the future research agenda, among other things, Barreto (2010) proposes specifying the nature of dynamic capabilities through more specific and non-dichotomous constructs, recognizing the possibility of the impact of dynamic capabilities on the performance or competitive advantages of companies and considering the performance measures linked to the environment. However, more importantly, future work should aim to simultaneously address two research objectives in the same study. Carattoli (2013) proposes lines of research that focus on probing the relationship between dynamic capabilities and other constructs, especially those that are relevant to the sustainability of the company and its relationship with the environment (Adner and Helfat, 2003; Augier and Teece, 2009; Schaltegger and Wagner, 2011; Wilden et al., 2013; Lanza et al., 2014).

From the perspective of Teece, Pisano and Shuen (1997), this study attempts to illuminate Barreto's (2010) lines of research cited above and deepen the understanding of individual dynamic capabilities (Carattoli, 2013) and their relationship with business success. According to Helfat and Martin (2015), individual dynamic managerial capabilities were first defined by Adner and Helfat (2003). Since then, few authors have focused on this area; thus, Helfat *et al.* (2015) argue that the research is in a nascent stage (p.422), although individual dynamic managerial capabilities can hold important implications for companies.

The limited previous research on individual dynamic managerial capabilities has focused on the theoretical development of the concept and its characterization (Teece et al., 1997; Helfat, 1997; Eisenhardt and Martin, 2000; Zollo and Winter, 2002; Winter, 2003). However, given its nascent state, empirical studies are scarce; thus, there is still ample room for improvement.

This study is one of the first studies to confirm, from an empirical perspective, the triple construct proposal of the individual dynamic managerial capabilities proposed by Teece *et al.* (2012), given that only 1 article that discusses this issue from an empirical perspective has been found (Wilden et al., 2013). Additionally, it is the first study to link individual dynamic managerial capabilities to sustainability and their involvement with the key stakeholders in an organization.

This article makes a series of innovative contributions based on the research conducted in this field in different aspects. First, as noted above, it confirms the tridimensional construction previously defined by Teece (2012). Second, it identifies the importance of each of these constructs for the formation of individual dynamic managerial capabilities. Finally, their influence on sustainability and stakeholder engagement in companies is analysed.

1.1. Relevant Scholarship

1.1.1. Individual dynamic capabilities

Dynamic capabilities are considered relevant competencies in the field of strategic management. Teece *et al.* (1997) first introduced a definition and the study of the nature of dynamic capabilities (DC) as a framework for analysing the sources of wealth creation in an environment of rapid technological change.

1
2
3 Following this theoretical work, interest among academics and management professionals in research in
4 the field of dynamic capabilities has grown worldwide.

5 The literature developed to date on dynamic capabilities focuses on investigating how companies develop
6 the dynamic skills that allow them to achieve long-term sustainability and a competitive advantage. Thus,
7 there are studies focused on the nature of these capabilities (Teece et al., 1997, 2010; Augier and Teece,
8 2008; Easterby-Smith, Lyles and Peteraf 2009), their results (Helfat, 1997; Zott, 2003), the processes
9 required to implement them (Eisenhardt and Martin, 2000; Helfat, 2003; Zahra et al., 2006; Zollo et al.,
10 2002), the environments in which they are recurrent (Eisenhardt and Martin, 2000; Aragon-Correa and
11 Sharma, 2003; Helfat et al., 2011), and their relationship with innovation and entrepreneurship (Teece,
12 2007; Augier and Teece, 2009; Pitelis and Teece, 2010; Salazar and Pelaez, 2011; Teece, 2012; Al-Aali
13 and Teece, 2014; Lanza et.al 2014).

14 This leads to two opposing streams about the nature of dynamic capabilities followed by various authors
15 in the case of dynamic capabilities at the organizational level. On one hand, Teece *et al.* (1997) define
16 them as latent abilities or competencies (Teece, 2000, 2007, 2010; Makadok, Adner and Helfat., 2003;
17 Helfat et al., 2007; Di Stefano, 2009). On the other hand, Eisenhardt and Martin (2000) define them as
18 processes or routines (Zollo et al., 2002; Zott, 2003; Winter, 2003; Salazar and Pelaez, 2011; Winter,
19 2011). There are also different views on the purpose to which dynamic capabilities respond. For Teece at
20 al. (1997), the objective of dynamic capabilities is to “rapidly adapt to changing environments”, whereas
21 for Eisenhardt and Martin (2000), it is to “generate a change in both the resources and the market”.

22 However, only recent studies discuss dynamic capabilities at the individual level, recognizing them as
23 part of the skills and abilities that the manager of a company needs to operate the company in dynamic
24 environments (Augier and Teece, 2008, 2009; McKelvie and Davidsson, 2009; Teece, 2012; Askari,
25 2014; Wilden et al, 2013). In research on dynamic capabilities at the individual level, establishing
26 similarities with the entrepreneurial skills of the manager/entrepreneur is inevitable (Tang, Kacmar and
27 Busenitz, 2012; Buil and Rocafort, 2015, Kucel, Róbert, Buil and Masferrer, 2016) because the individual
28 skills and characteristics of the manager influence the strategic decisions that lead to business success
29 (Williamson, 1999; Augier et al., 2009; Lanza et al., 2014).

30 Augier *et al.* (2009) establish the recognition of opportunities and leadership as individual dynamic
31 capabilities. Through the study of the human capital of the company’s manager, McKelvie *et al.* (2009)
32 determine three types of dynamic capabilities: the ability to generate ideas, the ability to create
33 disruptions in the market, and the innovation to develop new products and markets. Teece (2012)
34 highlights the importance of the role of the manager for the transformation of the company in changing
35 environments. In these cases, dynamic capabilities become the competencies of the individual (manager),
36 defined as sensing (the identification and evaluation of opportunities), seizing (enacting the opportunity
37 identified to create value), and transforming (continued innovation). In this same work, he defines
38 entrepreneurship as the identification and understanding of opportunities, its creative execution, and the
39 act of finding new and better methods to implement them. Within the field of entrepreneurship, Shane
40 (2000), Shane and Venkataraman (2000), Lazear (2005), Tang *et al.* (2012), Buil *et al.* (2015) concur
41 with this idea.

42 *1.1.2. Business sustainability: Environmental and social commitment*

43 Sustainability refers to the transformation of the management model of an organization towards achieving
44 economic objectives according to sustainable environmental and social criteria (Larson, 2000; Kyrö,
45 2001; Strothotte and Wüstenhagen, 2005; Cohen and Winn, 2007; Cohen et al., 2008; Van Passel, Van
46 Huylenbroeck, Lauwers, and Mathijs, 2009; de Grosbois, 2012; Bagur-Femenías, Llach, and Alonso-
47 Almeida 2013; Alonso-Almeida, Bagur-Femenías, Llach and Perramon, 2015b).

48 The manager’s role in the organization is decisive in changing the management model from a financial
49 perspective to a sustainable management model (Adner and Helfat, 2003; Zahra et al., 2006; Augier et al.,
50 2009; Wilden et al., 2013; Lanza et al., 2014). The introduction of social and environmentally responsible
51 objectives by the manager facilitates a long-term sustainable development of the business, with positive
52 effects on customers and society in a coordinated manner (Schaltegger and Wagner, 2011; Saeidi, Sofian,
53 Saeidi, Saeidi and Saeidi;2015).

54 Individual dynamic capabilities facilitate this process by allowing the combination of resources to create
55 value and thus contribute to sustainable development (Augnier and Teece, 2008; Teece, 2012). Some
56 authors (Garriga and Mele, 2004, Schaltegger et al., 2011) have identified the social and ethical values of
57 managers who achieve corporate sustainability through social and environmental innovations. According
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3 to Bansal (2005) and Tata and Prasad (2015) social commitment refers to the social promotion of
4 businesses and their mechanisms to improve the welfare of society, reduce social inequalities, improve
5 quality of life, and promote the common good and human rights. Some examples of the social
6 commitment of the manager are the process of making moral decisions (Petrick and Quinn, 2001), the
7 perception, deliberation, and sensitivity or adaptability process (Litz, 1996), and the development of
8 appropriate relationships with key stakeholders: employees, customers, suppliers, and society (Harrison
9 and John, 1996; Hillman and Keim, 2001). Adner and Helfat (2003) incorporate the manager's social
10 commitment as an individual dynamic capability. Therefore, it is expected that individual dynamic
11 capabilities contribute to the company's sustainable commitment.

12 *1.1.3. Stakeholder Engagement*

13 In changing environments, companies must be capable of adapting to enable long-term sustainability
14 (Smallbone, Deakins, Battisti and Kitching, 2012; Bamiatzi and Kirchmaier, 2014; Williams and Vorley,
15 2014; Martin and Sunley, 2015). To that end, internal and external changes are needed in the business to
16 involve the relevant stakeholders (Post, Preston and Sachs, 2002; Porter and Kramer, 2006, 2011; Wilden
17 et al., 2013; Lanza et al., 2014; Jakhar, 2016).

18 To address this situation, it is necessary for managers to have the skills to generate new business models
19 in the companies they lead (Helfat and Martin, 2015; Leih, Linden, and Teece, 2014). Individual dynamic
20 capabilities allow them to adapt and generate new internal processes and establish new relationships with
21 stakeholders. Both capabilities enable the creation, retention, and sustainability of new values required in
22 situations of change, creating a disruption in the market and thus directly affecting the results of the
23 company (McKelvie et al., 2009) and its commitment to stakeholders (Zahra, Sapienza, and Davidsson,
24 2006; Teece, 2010; Lanza et al., 2014).

25 D'heur (2015) introduces the integrated management concept of "Sustainable Value Creation", which
26 states that corporate management that includes an environmentally and socially sustainable perspective
27 leads to economic, environmental, and social growth. This concept includes sustainability, collaboration,
28 and company value creation. To create value in the company, it is necessary to focus on the customer's
29 needs through the involvement of both employees and the suppliers with which the company operates
30 (Katkalo, Pitelis and Teece, 2010; Wilden et al., 2013). Therefore, customers, suppliers, and employees
31 are the relevant stakeholders to be included in the company's strategy to face the challenges of the
32 environment (Leih et al., 2014; Alonso-Almeida et al., 2015b).

33 In this sense, in their book on ethics, sustainability, and stakeholder management, Carroll and Buchholtz
34 (2014) determine that commitment to sustainability involves incorporating cooperation measures with
35 customers, suppliers, and employees in the strategic decisions of the company. These are the main
36 stakeholders with whom the company must establish relationships to generate innovation, and therefore,
37 they should be included in the Sustainable Value Chain. Other authors also highlight the importance of
38 these stakeholders (Clift and Wriath, 2000; Seuring, 2004; Seuring and Müller, 2008; Carter and Easton,
39 2011; Ngo, Liem Viet, and Aron O'Cass, 2013; Alonso-Almeida et al., 2015b).

40 Therefore, individual dynamic capabilities can contribute to Sustainable Supply Chain Management
41 (Mentzer, DeWitt, Keebler, Min, Nix, Smith and Zacharia 2001; Seuring and Müller, 2008), including
42 "cooperation among companies along the supply chain while integrating goals from all three dimensions
43 of sustainable development, i.e., economic, environmental, and social, which are derived from customer
44 and stakeholder requirements (Young, Hwang, McDonald *et al.*, 2010). In sustainable supply chains,
45 environmental and social criteria need to be fulfilled by the members to remain within the supply chain,
46 while it is expected that competitiveness would be maintained through meeting customer needs and
47 related economic criteria" (Seuring, 2013 pp. 1514).

48 *1.2. Hypothesis Statement*

49 Based on the most relevant contributions from previous research and theory, the following hypothesis are
50 proposed:

51 H1: Individual dynamic capabilities are directly related to the following:

52 H1a: sensing

53 H1b: seizing

54 H1c: transforming

55 H2: The manager's individual dynamic capabilities have a direct and positive effect on his or her
56 commitment to the environment.
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H3: The manager's individual dynamic capabilities have a direct and positive impact on his or her social commitment.

H4: The commitment of the business manager to the environment, driven by individual dynamic managerial capabilities, has a direct and positive impact on stakeholder engagement.

H5: The social commitment of the business manager, driven by individual dynamic managerial capabilities, has a direct and positive impact on stakeholder engagement.

To summarize these hypotheses, the model to be tested is described in Figure 1:

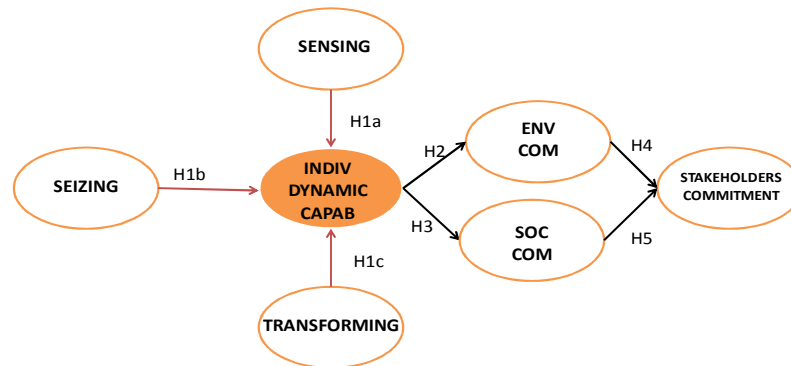


Figure 1: The model to be tested

2. Method

2.1. Sampling Procedures

2.1.1 Sample Size

To compare the above hypotheses, a sample of 339 managers who completed a Master's in Business Administration (MBA) at Spanish universities during the academic years 2013-2014 and 2014-2015 have been analysed. As a result of their research, McKelvie *et al.* (2009) conclude that the manager's training and experience influence his or her dynamic capabilities and decisions on the job. In terms of educational background, work experience, and working industry, the main features of the students in the sample are shown below in Table 1.

As Fraj, E; Matute, J; Melero, I. (2015) pointed out, the use of a subjective approach to be suitable since executives are usually less reluctant to provide subjective information than objective data. In addition, some authors point out that obtaining information on business performance according to subjective methods is consistent with objective measures.

Table 1: Profile of responders

Variable	FULL SAMPLE (35.40%) N = 339	WOMEN (36.29%) N=130	MEN (64.60%) N=209

Age: average	39	37	40
Degree:			
- University/undergraduate degree	78,17%	80,77%	76,56%
- Master's or PhD	19,17%	19,23%	19,14%
- Other university degrees	2,66%	0,00%	4,30%
Work experience:			
- < 1 year	10,03%	9,23%	10,50%
- Between 1 and 5 years	17,11%	13,85%	19,14%
- Between 5 and 10 years	55,16%	52,31%	56,94%
- > 10 years	17,70%	24,61%	13,42%
Current work position:			
- Management team	66,37%	76,92%	59,81%
- Entrepreneurs/Other	33,63%	23,08%	40,19%

On average, the individuals in the sample are 40 years of age, which allows more than 50% of the respondents to have work experience of between 5 and 10 years. In addition, corresponding to their current employment, approximately 67% of women and 75% of men have been part of management in their last job. For both men and women, a very high percentage of the respondents, i.e., more than 95%, have a university education, which corresponds to the training that business managers typically show. Regarding distribution by sex, approximately 36% are women and 64% men; this bias in the sample is consistent with the unequal distribution in the access to management positions between men and women, a very important point that suggests various ethical and sociological considerations that have previously been brought to light in the literature (e.g., Alonso-Almeida et al., 2015a, in Spain National Statistics Institute, 2016).

2.1.2. Measures

These managers completed a survey that addressed various items, evaluating the different capabilities required to be a company manager and their social and environmental commitment and the stakeholder engagement of each candidate. The survey was designed on the basis of previous academic studies in this area (Tang et al., 2012; Wilden et al., 2013; Kucel *et al.* 2016). The answers to the questions were set according to a 7-point Likert scale with values ranging from 1 to 7, where 7 represents the highest degree of identification with the question and 1 the lowest. Table 2 shows the mean values for the different questions, making it possible to define the three competencies under study and their social and environmental commitment.

Table 2: Means of the variables that comprise the mode.

Dimension	Code	Definition	MEAN
SENSING	SENS1	Frequent interactions with third parties to acquire new information	4.51
	SENS2	I am attentive to new business opportunities	4.66
	SENS3	Actively seeking new information	5.00
	SENS4	I am constantly in contact with resource centres (chambers of commerce, accelerators, etc. ...)	4.23
Average value of the			4.6

construct			
SEIZING	SEIZ1	I often see a situation differently from others	4.78
	SEIZ2	I often have new ideas and approaches to different problems	4.75
	SEIZ3	I see links between seemingly unrelated parts	4.62
	SEIZ4	I am good at connecting different points of view	4.27
Average value of the construct			4.61
TRANSFORMING	TRAN1	Perceiving business opportunities is inherent to my personality	4.84
	TRAN2	I have hunches about potential opportunities	3.59
	TRAN3	I can distinguish between profitable and less profitable opportunities	4.63
Average value of the construct			4.35
SOCIAL COMMITMENT	SOC COM1	I believe strongly in maintaining employment and the positive effect of a good working environment	5.81
	SOC COM2	I think that companies should pay the same to people who perform the same tasks	5.41
	SOC COM3	All companies should be committed to the community in which they operate	4.86
Average value of the construct			5.36
ENVIRONMENTAL COMMITMENT	ENV COM1	I do not understand a business without a sustainable environmental approach	5.14
	ENV COM2	Employees should be trained and motivated to promote positive environmental initiatives	4.66
	ENV COM3	I believe in environmental marketing	4.54
	ENV COM4	Any company should quantify environmental savings and costs	5.37
Average value of the construct			4.97
STAKEHOLDER ENGAGEMENT	STEN1	Collaborating with customers is key to improving products/services	5.33
	STEN2	The customer focus and the detection of their needs should be a key component in the strategy of any organization	5.88
	STEN3	Collaborating with suppliers is key to improving products/services	5.21
	STEN4	Employee education and involvement	5.63

		are key to business success	
Average value of the construct			5.51

Using a 7-point Likert scale that ranges from 1 to 7, the mean values for the questions in the survey show values above 4 in all cases except one, a question associated with self-awareness. The mean values are significantly higher in the questions related to stakeholder engagement. With regard to both the social commitment and the environmental commitment of the respondents, the mean values are higher than 4 in all cases; however, there are some differences, with slightly higher values for social commitment compared to environmental commitment.

2.1.3. Research Design

The statistical analysis was divided into two distinct parts. Via factor analysis, the first part aimed to determine the different dimensions that comprise the model to be tested based on the variables in the questionnaire. Once the dimensions were defined, the second part aimed to test the fit of the proposed model through structural equations. Next, the work performed in each of these two parts is detailed.

Based on an exploratory factor analysis (EFA), the variables that best explained each of the dimensions that comprise the model were chosen. In addition, and as noted in the literature (Loiacono, Richard, Watson and Goodhue, 2002), variables with loads of less than 0.5 were removed from the model. The results of this first analysis show that the variables are grouped into six different dimensions.

Having defined the composition of the dimensions, each dimension was subjected to a confirmatory factor analysis (CFA) to decompose each construct. As a result of this analysis, different factors that did not exceed the load threshold of 0.7 required in the literature were eliminated. Thus, the model was reduced to 22 factors and six dimensions. These dimensions were subjected to the Cronbach Alpha analysis, in all cases exceeding the required value of 0.7 (Carmines and Zeller, 1979). In the penultimate stage of this first part, analyses of the dimensions' consistency, reliability, and convergent validity were performed. The compound reliability in all cases was greater than 0.6 (Bagozzi and Yi, 1988); the average variance extracted (AVE) was greater than 0.5; and convergent validity was confirmed in accordance with the level established by Fornell and Larcker (1981).

The results and main statistics associated with this section are presented in Table 3:

Table 3: Factor analysis of the dimensions

Dimension	Code	CFA	Internal consistency and reliability statistics
SENSING	SENS1	0.767	Cronbach's alpha: 0.828 Composite reliability: 0.878 AVE: 0.642
	SENS2	0.803	
	SENS3	0.812	
	SENS4	0.822	
SEIZING	SEIZ1	0.756	Cronbach's alpha: 0.809 Composite reliability: 0.871 AVE: 0.629
	SEIZ2	0.784	
	SEIZ3	0.816	
	SEIZ4	0.815	
TRANSFORMING	TRAN1	0.781	Cronbach's alpha: 0.812 Composite reliability: 0.829 AVE: 0.618
	TRAN2	0.776	
	TRAN3	0.802	
SOCIAL COMMITMENT	SOCCOM1	0.763	Cronbach's alpha: 0.821 Composite reliability: 0.837
	SOCCOM2	0.808	

	SOCCOM3	0.812	AVE: 0.631
ENVIRONMENTAL COMMITMENT	ENVCOM1	0.796	Cronbach's alpha: 0.808 Composite reliability: 0.867 AVE: 0.620
	ENVCOM2	0.777	
	ENVCOM3	0.785	
	ENVCOM4	0.791	
STAKEHOLDER ENGAGEMENT	STEN1	0.799	Cronbach's alpha: 0.815 Composite reliability: 0.875 AVE: 0.636
	STEN2	0.801	
	STEN3	0.803	
	STEN4	0.787	

Finally, once the dimensions were defined and tested, a final discriminant validity analysis was performed, demonstrating in all cases that each construct was more related to its own dimensions than to the dimensions of the other constructs. Table 4 shows the statistics that confirm this finding.

Table 4: Discriminant validity

	SENS	SEIZ	TRAN	SOCCOM	ENVCOM	STEN
SENS	0.801*					
SEIZ	0.188	0.793*				
TRAN	0.315	0.311	0.786*			
SOCCOM	0.218	0.189	0.250	0.795*		
ENVCOM	0.253	0.188	0.186	0.300	0.787*	
STEN	0.312	0.228	0.098	0.244	0.481	0.798*

*Square root of AVE in the diagonal

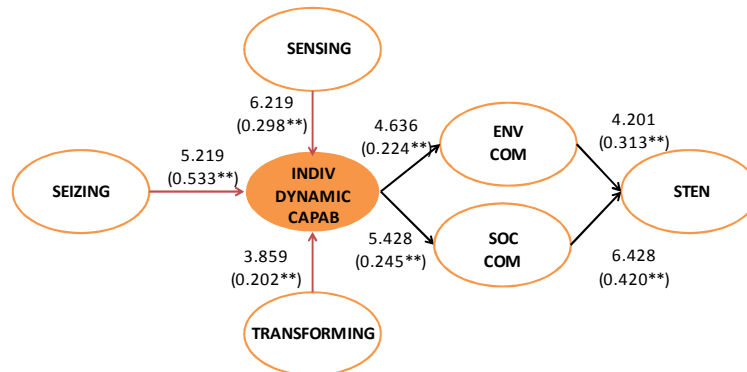
By using EQS 6.1 software and robust structural equation modelling, the fit of the proposed model was tested, demonstrating its suitability through the observation of the main statistics. According to the literature, Schermelleh-Engel, Moosbrugger and Müller (2003) establish that it is sufficient to have three statistics within their recommended values to test the fit and explanatory capacity of the models defined according to this methodology. In the model we are addressing, these minimum requirements are exceeded, confirming the strength and explanatory capacity of the model. Table 5 shows the values for the main statistics and their ideal values according to the literature.

Table 5: Main statistics (EQS)

Statistics	Result	Ideal value
x ² /degrees of freedom	2.855	<3
BB-NFI (Bentler-Bonnet normed fit index)	0.814	>0.8
BB-NNFI (Bentler-Bonnet non-normed fit index)	0.911	>0.9
CFI (comparative fit index)	0.926	>0.9
RMSEA (root mean square error of approximation)	0.053	<0.06

* Satorra-Bentler scaled chi-square

To conclude the results section and in summary, Figure 2 presents the model and the statistics for the causal relationships derived therefrom.



** p-value significant at the 0.05 level

Figure 2: Standardized solution of the causal model

3. Results

3.1. Data Analysis

In reviewing the existing literature and the proposals for future research on individual dynamic capabilities, Barreto (2010) emphasizes the need to consider dynamic capabilities as a multidimensional construct and the importance of linking these capabilities to the development of competitive advantages in the company. This work is aligned with these suggestions, given that, from a methodological perspective, the treatment of the competencies is that of a multidimensional construct and ultimately the model seeks to empirically test the existence of a relationship between individual dynamics capabilities and greater social commitment and environmental commitment and, finally, how greater social commitment and environmental commitment have a direct positive and significant impact on management, incorporating their relationships with stakeholders: employees, customers, and suppliers. The model proposed from a wide sample shows significant results in which all hypotheses are accepted, reinforcing previous results but adding some new aspects that open some interesting developments for academic research and the application of business training policies.

The first hypothesis (H1) proposed the existence of a relationship between the three skills defined as sensing, the ability to detect opportunities (H1a); seizing, the proper management of resources and investments to create added value (H1b); and transforming, the ability to perform continuous innovations in the company (H1c). The three skills have a significant relationship with individual dynamic capabilities, as suggested in previous research (Augier and Teece, 2009; McKelvie and Davidsson, 2009; Wilden et al., 2013).

Wilden *et al.* (2013) propose a structural equation model that analyses the influence of sensing, seizing, and transforming on dynamic capabilities and its effect on firm performance. The results of the sensing, seizing, and reconfiguring (transforming) variables have very similar weights on the effect on individual dynamic capabilities. This study finds significant differences in the relationship between the sensing, seizing, and transforming variables and dynamic capabilities. The variable that shows the highest ratio, depending on the outcome of the structural equation model, is sensing – the manager's ability to identify opportunities in the environment – with a coefficient of 6.219, followed by seizing (5.219) – the ability to properly manage resources and investment to generate added value – and, ultimately, transforming (3.859) – the ability to transform products, services, markets, and the organization through continuous

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3 innovation. One possible explanation is that the idea of “doing more with less” is permeating
4 organizations.

5 Regarding the relationship between the influence of individual dynamic capabilities and the company’s
6 sustainable development, once again the results confirm a direct and significant relationship, although
7 with the greatest importance in the case of social commitment, which reaches a value of 5.428 compared
8 to 4.656 for environmental commitment. The previous literature has analysed the importance of including
9 environmental and social objectives in the manager’s objective function. Thus, although both are
10 important, individual dynamic capabilities seem to more greatly increase the social commitment rather
11 than the environmental commitment of the company. The results obtained in terms of the relationship
12 between individual dynamic capabilities and social commitment and environmental commitment
13 reinforce the results found by Garriga and Mele (2002) and Schaltegger and Wagner (2011). One possible
14 explanation is that the threat of climate change is making regulation in this area tighter worldwide (Alfaro
15 et al., 2008; Clemow et al., 2012; Gudynas, 2013; Samaniego, 2014 among others); therefore, the
16 development of social commitment is propelled where regulations are not as strong.

17 Thus, individual dynamic managerial capabilities can be configured as a driver of business sustainability.
18 The visionary capacity, together with adaptation and innovation, cause the perception of sustainability in
19 the environmental aspect to be the backbone of any initiative that the company will develop. Similarly,
20 social commitment needs to be added as a relevant aspect that is increasingly important, especially in
21 times of crisis (Alonso-Almeida and Bremser, 2014).

22 Finally, for the incorporation of environmental and social objectives by managers to be sustainable over
23 time, it is necessary that they are related to business success. This success is more likely to occur when
24 management takes into account stakeholder needs and relationships. In the model presented, the existence
25 of a direct relationship between environmental commitment (H4) and social commitment (H5) with a
26 management style oriented towards stakeholders becomes significant, although the relationship between
27 social commitment and stakeholder orientation is more powerful than the relationship with environmental
28 commitment.

29 Adner *et al.* (2003) establish a direct relationship between the manager’s social commitment, as an
30 individual competency, and stakeholder engagement. This paper goes a step further, given that, in
31 addition to considering the manager’s social commitment, it establishes a direct and positive relationship
32 between the manager’s environmental commitment and its relationship with stakeholder engagement as
33 tools for the sound management of the company. This study also states that social commitment is
34 significantly higher than environmental commitment. In line with this idea, Alonso-Almeida *et al.*
35 (2015a) conclude that the manager’s social values have a greater consideration in the development of
36 stakeholder engagement than do environmental values. They find that the satisfaction of customer needs,
37 the production of high-quality useful products and services, and value maximization for shareholders
38 (stakeholder engagement) are the top three positions in what should be a well-managed company,
39 whereas operating according to the manager’s values and with a strong code of ethics (social
40 commitment) ranks 7th and the inclusion of certain environmental measures ranks 12th. Thus, these
41 results reinforce the idea that stakeholders are more interested in the company’s social commitment than
42 in its environmental commitment.

43 **4. Discussion**

44 The results provide a number of conclusions that are relevant to the business environment, the educational
45 field, and the academic field.

46 First, the rapidly changing and competitive environment that companies face calls for the development of
47 business management models that result in competitive advantages that are sustainable in the long term.
48 This study shows the existence of a significant relationship between individual dynamic capabilities and a
49 better approach to managing the company with regard to the relationship with key stakeholders:
50 employees, suppliers, and customers. This approach is key to managing the current economic and social
51 environment and should be considered by those responsible for proposing and managing policies for the
52 industrial development and support of small and medium-sized enterprises.

53 One recommendation addressed to business is to include deliberately social and environmental criteria in
54 the strategy of the company. These criteria should be aligned with some of the request of stakeholders’
55 company or the society in general. Some social examples could be created a company reputation what
56 favors business’ sustainable development like diversity, equality and familiar and professional balance. In
57 the case of environment could put focus not only in reduce the pollution of its own business, unless
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3 helping to become sensitive the importance to care the environment thought its marketing campaigns,
4 mass media information and collaboration with universities and professional education centers among
5 others.

6 Another recommendation is since managers with individual dynamic capabilities create value for the local
7 community where the company operates in both environmental and social dimensions and are capable to
8 align business objectives with its stakeholders' requirements; companies should recruit people with such
9 capabilities or at least the potential to achieve them. In addition, companies should look for ways to
10 develop a business climate where individual dynamic capabilities can flourish in all levels not only in
11 management team. This fact could help companies to achieve a competitive advantage because detecting
12 market changes and opportunities and develop disruptive innovation in products, process or business
13 models are key drivers in order to continue promoting sustainability (Alonso-Almeida, 2013; Alonso-
14 Almeida et al., 2016).

15 Second, the empirical work presented is aligned with the most recent work in the field on individual
16 dynamic capabilities and their relationship to a different method of managing that aims beyond simple
17 economic performance. In the current economic environment, corporate strategy necessarily involves the
18 creation of value that is recognized by stakeholders. Thus, it is essential for the organization that the
19 people who make decisions and adopt business strategies have sufficient individual dynamic capabilities.
20 The academic research in the field of stakeholder relations could aim at the consideration of the
21 relationships raised by our research.

22 One of the possible implications for the business strategy is that collaboration with key stakeholders such
23 as customers, suppliers and employees is essential to advance in business sustainability. Customer focus
24 and detection of their needs should be a key component in the strategy of whatever organization as well
25 as collaborating with them for the detection of their needs in order to improve products and services or
26 create new ones. Therefore, individual dynamic capabilities properly addressed could be a relevant source
27 of innovation, specifically in terms of sustainable development in both social and environment
28 dimensions differentiating company position in term of social and eco-innovation regarding their
29 competitors.

30 Third, regarding the educational field, this study highlights several recommendations. First, programmes
31 for the development of individual dynamic capabilities need to be incorporated into the educational
32 programmes and learning processes of future business managers. Second, the model used and the results
33 obtained are useful for targeting education policies in both the regulated educational system and
34 continuous training in companies. Finally, the addition of these dynamic capabilities must be included in
35 updating the business training plans for employees to include their development and incorporation into
36 the company's daily management responsibilities at all levels of decision-making and for all employees.
37 The positive effects of influencing these competencies are not only higher economic growth but also the
38 development of a productive web that is quickly adaptable. This influence also incorporates social and
39 environmental aspects into determinations of business objectives, aspects that are increasingly in demand
40 in today's society.

41 Finally, various lines of research for the academic field are proposed. First, following Augier and Teece
42 (2008), Teece (2012), and Lanza *et al.* (2014), investigations to determine the individual dynamic
43 capabilities that a manager must have to address changes in the environment must continue. Dynamic
44 capabilities, as their name suggests, are not static and unresponsive to a behavioural pattern valid for
45 unexpected changes in the environment.

46 Second, as proposed by McKelvie and Davidsson (2009), Baretto (2010), Wilden *et al.* (2013), and Leih
47 *et al.* (2014), the impact of individual dynamic capabilities on the company's results, the relationship with
48 the environment in which it operates, and why they develop in start-ups should be further investigated.
49 This study attempts to illuminate these issues by stating that there is a direct and positive relationship
50 between individual dynamic capabilities and stakeholder engagement, which allows them to perform
51 internal and external transformations in the business to create value and thus ensure the competitiveness
52 and development of new enterprise business models.

53 Third, in studying the dimensions of sustainability, Seuring (2013) concludes that environmental
54 commitment is higher than social commitment. Social aspects have been virtually ignored or incorrectly
55 interpreted by companies. As future research, the same study suggests the inclusion of the social
56 dimension in proposed research models to find the appropriate relationship between the social and the
57 environmental dimensions of sustainability and to understand its impact on supply chain performance.
58 Regarding this point, this paper shows that the manager's social commitment is significantly higher than
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his or her environmental commitment and directly and positively influences stakeholder engagement in value chain sustainability.

Additionally, it may be interesting to conduct an analysis of this study for different types of segments, such as gender, sector, academic profile, or others of interest.

In short, several authors point to the investigation of dynamic capabilities at an individual level as a new theoretical framework for research in the field of management, integrating strategy and the organization and considering the environment in which the company operates (Augier and Teece, 2009; McKelvie and Davidsson, 2009; Baretto; 2010; Leih et al., 2014). Through the analysis of the manager's social commitment and environmental commitment and their effect on stakeholder engagement, this study reinforces this idea.

Finally, the study presented has limitations, such as the geographical area in which the sample was prepared; further new empirical research that makes it possible to reaffirm the conclusions is recommended. Moreover, future research of great interest is targeted. On one hand, the analysis of circumstances facilitates the development of individual competencies. On the other hand, the study of the social engagement measures taken by companies and their broad effects, regarding both the development of competitive advantages such as the effects on stakeholders and their benefits for society as a whole, is recommended.

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Abstract: The current business market is characterized by rapid and continuous changes. Companies should adapt to new situations to guarantee sustainable development. Managers need to have capabilities to understand the new environment's requirements. Managers' individual dynamic capabilities (IDC) help them face these unpredictable changes in the market. However, few authors have analysed individual dynamic capabilities to ensure business sustainability. This study aims to shed light on the relationship between a manager's IDC and business sustainability from a gender perspective. A survey of 339 managers was conducted, and Structural Equation Modelling (SEM) was applied to study the impact of the relationship. The results show that managers' individual dynamic capabilities help them detect changes in the market earlier and promote a greater social and environmental commitment from those managers. In addition, significant differences in the environmental and social commitment between men and women were found. Therefore, this paper first provides advice for developing business sustainability to provide an advantage for organizations. Second, individual dynamic managerial capabilities appear to be important for promoting sustainability. Finally, another step in the construction of gender and sustainability is provided. Thus, this paper provides useful empirical evidence for managerial practice from a strategic management viewpoint.

INDIVIDUAL DYNAMIC MANAGERIAL CAPABILITIES: INFLUENCE ON ENVIRONMENTAL AND SOCIAL COMMITMENT FROM A GENDER PERSPECTIVE

Abstract

The current business market is characterized by rapid and continuous changes. Companies should adapt to new situations to guarantee sustainable development. Managers need to have capabilities to understand the new environment's requirements. Managers' individual dynamic capabilities (IDC) help them face these unpredictable changes in the market. However, few authors have analysed individual dynamic capabilities to ensure business sustainability. This study aims to shed light on the relationship between a manager's IDC and business sustainability from a gender perspective. A survey of 339 managers was conducted, and Structural Equation Modelling (SEM) was applied to study the impact of the relationship. The results show that managers' individual dynamic capabilities help them detect changes in the market earlier and promote a greater social and environmental commitment from those managers. In addition, significant differences in the environmental and social commitment between men and women were found. Therefore, this paper first provides advice for developing business sustainability to provide an advantage for organizations. Second, individual dynamic managerial capabilities appear to be important for promoting sustainability. Finally, another step in the construction of gender and sustainability is provided. Thus, this paper provides useful empirical evidence for managerial practice from a strategic management viewpoint.

Highlights

- Individual dynamic capabilities have an impact on their sustainable commitment.
- Individual dynamic capabilities appear to be a driver for sustainable development.
- Individual dynamic capabilities are not gender neutral regarding sustainability.

Abbreviations

IDC, Individual Dynamic capabilities; SEM, Structural Equation Modelling; SOC COM, Social Commitment; ENV COM, Environmental Commitment; EFA, Exploratory Factor Analysis; CFA, Confirmatory Factor Analysis; AV, average variance.

INDIVIDUAL DYNAMIC MANAGERIAL CAPABILITIES: INFLUENCE OVER ENVIRONMENTAL AND SOCIAL COMMITMENT UNDER A GENDER PERSPECTIVE

1. Introduction

In the current economic environment, consumers reward more socially and environmentally responsible companies (Laparra and Perez 2011; Schaltegger and Wagner 2011). This forces companies to adapt to these new requirements in their environment (Smallbone et al. 2012; Chofreh et al. 2014; Edgeman et al. 2014). Because the lead managers must adapt to the new environment, they should also adopt new capabilities (Augier and Teece 2009; Teece 2012; Alonso-Almeida et al. 2015a).

The literature developed thus far on dynamic capabilities focuses on investigating how companies develop dynamic skills that allow them to obtain long-term sustainability and competitive advantages. Thus, studies have focused on the nature of these capabilities (Teece et al. 1997, 2010; Augier et al. 2008; Easterby-Smith et al. 2009), the results (Helfat 1997; Zott 2003), the processes required to carry them out (Eisenhardt et al. 2000; Zahra et al. 2006; Zollo et al. 2002), the recurrent environments (Aragon-Correa et al. 2003; Helfat et al. 2015), and their relationship to innovation and entrepreneurship (Teece 2007; Augier and Teece 2009; Pitelis and Teece 2010; Salazar Pelaez and 2011; Teece 2012; Al-Aali and Teece 2014; Lanza and Passarelli 2014).

However, in the case of dynamics at the individual level, it is not clear what these capabilities provide. The literature on individual dynamic capabilities (IDC) is scarce, as Helfat and Martin (2015) note, and more so in the case of experimental research. In fact, only one article that discusses this issue from an empirical perspective was found (Wilden et al., 2013). These authors analysed the impact of dynamic capabilities proposed by Teece (2012) on the financial performance of the company using SEM. In this framework, we conduct the present research on the influence of IDC in the new contextual framework (environmental), where consumers reward companies' social and environmental responsibility. This work analyses this situation from the framework of individual dynamic skills and from a gender perspective. These findings show that IDC help managers observe the market and be alert and detect earlier changes in the environment. Those managers with IDC are more committed to social and environmental issues.

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The rest of the article is organized as follows. Section 2 is a review of the literature related to dynamic individual abilities and social and environmental commitment. Section 3 describes the methods used in the empirical study and the results obtained. Section 4 presents a discussion. This article ends with conclusions based on empirical analysis and recommendations for future research.

2. Literature review

2.1. *Managerial individual dynamic capabilities and environmental and social commitment*

In today's dynamic environment, which is characterized by continuous and unpredictable changes, managers of enterprises require new skills to successfully manage and ensure the company's long-term sustainability (Helfat and Martin, 2015). Several authors have highlighted some of the new skills required. Augier and Teece (2009) defined these skills as the recognition of opportunities and leadership, whereas McKelvie and Davidsson (2009) defined them as the ability to generate ideas and create disruptions in the market and the innovation to develop new products and markets.

Teece (2012) stresses the importance of the manager's role in the company's transformation in changing environments. In these cases, dynamic capabilities become competencies of an individual (manager) that are defined as sensing (identification and evaluation of opportunities), seizing (carrying out the identified opportunity to create value) and transforming (continued innovation). Wilden et al. (2013), Lanza et al. (2014) and Leih et al. (2014) identify these same powers as manager capabilities to ensure business success in the long term.

Carattoli (2013) proposes research focused on the relationship between dynamic search capabilities and other constructs, especially those that are relevant to make sustainable links to certain environmental company measures and the company's relationship with the environment (Adner et al. 2003; Augier et al. 2009; Schaltegger and Wagner 2011; Wilden et al. 2013).

Other authors (Helfat et al., 2007; Hendry and Nicholson, 2010) consider the leaders' strategic thinking in companies as a powerful individual capability to understand and

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adapt to changes in order to bring innovation to the market. For these reasons, as Calabrese and Costa (2015) noted, strategic thinking of managers is considered a possible driver for sustainability development.

The sustainability of a company refers to the transformation of business models oriented towards purely economic objectives where, in addition to economic sustainability, another model incorporates environmentally and socially aware criteria into the overall strategy (Larson, 2000 Kyrö, 2001; Strothotte and Wüstenhagen, 2005; Cohen and Winn, 2007; Cohen et al., 2008; Van Passel, Van Huylenbroeck, Lauwers, & Mathijs, 2009; Grosbois, 2012, Alonso-Almeida et al. 2014, Buil et al. 2016a).

Tata and Prasad (2014) state that sustainability consists of three categories, environmental, social and human, that are influenced by the perceptions and beliefs of humans. Environmental sustainability refers to the environmental management of enterprises to maintain the natural ecosystem through actions such as reducing pollution, consumption and the ecological footprint (Lindgreen et al. 2009). Social sustainability focuses on social impacts and human rights (Bansal, 2005), improving social welfare and promoting more responsible companies through the reduction of social inequalities, improving quality of life and concern for the common good. A third category of sustainability that is under investigation is human sustainability, a reference to all the members who make up the organization. Human sustainability refers to how the company processes influence the physical and mental development of the organization's members and involves practices such as the conditions and hours of work or the provision of benefits to members, such as medical coverage (Pfeffer, 2010).

Therefore, according to Tata and Prasad (2014), beliefs and perceptions about sustainability lead to the implementation of major environmental, social and human initiatives in the company to safeguard the environment and help society.

According to both Schaltegger and Wagner (2011) and Tata and Prasad (2014), the introduction of social goals and environmentally responsible managers facilitates sustainable development over the long term for companies, with positive effects on customers and society in a coordinated manner. IDC facilitate this process by allowing the combination of resources to create value and contribute to sustainable development (Augnier and Teece 2008, Teece 2012). Some authors (Schaltegger and Wagner 2011; Garriga and Mele, 2013) have identified the social and ethical values of managers who

1 manage corporate sustainability through social and environmental innovations.
2 Examples of social engagement management are the process of ethical decision making
3 (Petrick and Quinn 2001, Adner and Helfat 2003) and the development of appropriate
4 key stakeholder relations: employees, customers, suppliers and society (Harrison and
5 San Juan 1996; Hillman and Keim 2001). Therefore, it is expected that the manager's
6 IDC contribute to social and environmental business momentum in order to make them
7 socially and environmentally responsible. In light of the above contributions, the
8 following hypotheses are made:
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15 H1: Individual dynamic capabilities of the manager have a direct and positive impact on
16 their social commitment.
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20 H2: Individual dynamic capabilities of the manager have a direct and positive effect on
21 their commitment to the environment.
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23 24 *2.2. Managerial individual dynamic capabilities and gender*

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27 IDC are a new field of research. To date, there is no evidence from studies about
28 the impacts on a company where the effect of the dynamic capabilities of a manager
29 committed to social and environmental commitment is analysed from a gender
30 perspective. The literature to date has studied leadership or management of an
31 enterprise, considering women as an "engine change" (Cohen and Huffman, 2007), or
32 the perception of women and their impact on the social and environmental aspects of the
33 company. A consensus in the previous literature attributes to men a dominant leadership
34 style in the company characterized by authoritarianism, with an eagerness for power and
35 status and an orientation towards economic performance (Connor 2004, Godoy and
36 Mladinic, 2009). By contrast, women are associated with transformational leadership
37 based on social values, interpersonal relations, welfare and empathy for others (Rudman
38 and Glirk, 2001; Bird and Brush 2002; Eagly and Carli, 2003, 2007; Aygün et al. 2008,
39 Alimo-Melcalfe, 2010).
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52 In addition, Askehave and Zethsen (2014) establish a third type of leadership that both
53 men and women adopt depending on the environment and the social context in which
54 they operate (Billing 2011). This type of leadership is a mixed dominant leadership and
55 is transformational. In this case, men and women are similar in terms of management
56 models and leadership carried out in enterprises (Godoy and Mladinic 2009) and
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1 converge on similar values without showing particular characteristics of management
2 styles and leadership that characterize them because of their gender. Joint leadership can
3 thus be called evolutionary leadership (Murray et al. 2011), as it is able to adapt to
4 changing market demands.
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8 Fernandez et al. (2003) suggest that an organization's manager must have the capability
9 to adapt to environmental changes. To this end, part of the job is to review the literature
10 on the relationship between the company's leadership style and the managers'
11 environmental commitment. According to Portugal and Yukl (1994), the leaders with
12 environmental commitment resemble transformational leadership, whereas other authors
13 (Egri and Herman, 2000) argue that leaders with social commitment respond to the
14 characteristics of transformational leadership, including the values of collaboration,
15 granting responsibility to employees, two-way communication, orientation towards
16 change, charisma, confidence building and individualized consideration—as opposed to
17 transactional leadership, which includes mediation, contingent compensation and
18 unidirectional communication.
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29 The first line of research suggests that women have greater social commitment than men
30 because of their concern for the welfare of both employees and society in general (Tata
31 and Prasad 2014, Larrieta-Rubin de Celis et al. 2015), their commitment to ethical
32 values themselves (Galbreath, 2006), their own social characteristics of caring for
33 others, and the ability to establish interpersonal relationships and to empathize
34 (Boulouta 2013). By contrast, men have a greater environmental commitment derived
35 from their focus on economic performance in the short term (Hindle, Klyver and
36 Jennings 2009; Kronsell et al. 2014; Alonso-Almeida et al. 2014. Santos et al. 2016). In
37 the same vein, Bernardi and Threadgill (2010) suggest a relationship between the
38 number of women who make up top management teams and the companies with the
39 greatest social commitment, because women incorporate greater commitments to
40 donations, society and outside recognition of the employees' work. Some studies also
41 show that women are more likely than men to identify situations in which judgements
42 of ethical values are necessary (Smith et al. 2001).
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55 The recent second line of research suggests that women also have greater environmental
56 commitment than men because women have a greater concern for the environment and
57 identify with the environment, as suggested by eco-feminist theories (e.g., inequalities
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1 of the impact of climate change) (Alonso-Almeida et al. 2013; Eccles et al. 2014),
2 leading to greater reasons for concern about environmental management in the
3 company. Thus, women take a positive role in promoting practices designed to protect
4 the environment and therefore help to increase the local community's wealth (Alonso-
5 Almeida 2012). Similarly, Kassinis et al. (2016) conclude in their study that companies
6 with more women making strategic decisions develop more environmentally
7 responsible policies and measures. However, the proportion of women at all levels of
8 economic management and decision-making worldwide is lower than that of men
9 (European Union 2010). Fernandez-Feeijo, Romero and Ruiz Blanco (2014) suggest
10 that companies who have at least three women on their management team (which is a
11 criterion of critical mass) are more socially and environmentally responsible than those
12 who do not have at least three women on the management team. This is due to both the
13 greater social and environmental commitment of women compared to men and the
14 increased presence of women in top management teams, which has a positive impact on
15 the deployment of corporate social responsibility (CSR) measures seeking gender
16 equality, which contributes to environmental innovation in firms (Larrieta- Rubin de
17 Celis et al. 2015).

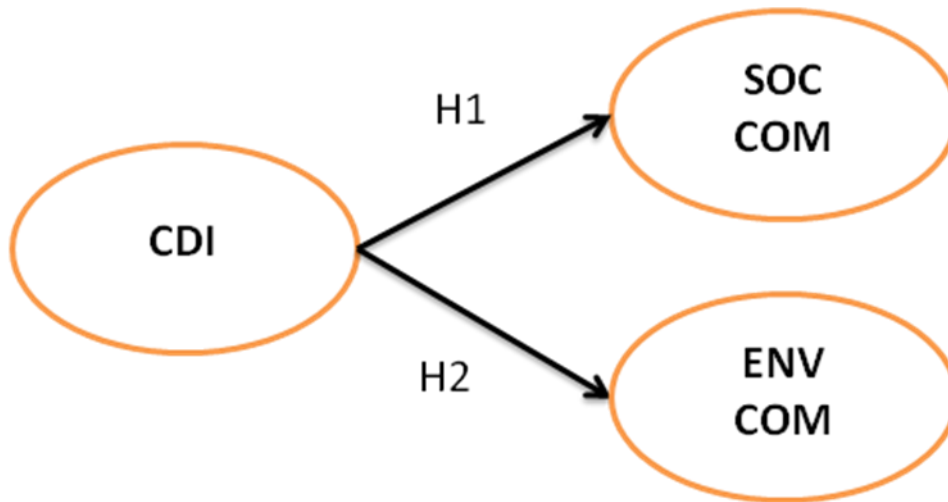
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Because the previous literature suggests that both management and leadership styles, as well as the social and environmental commitment of men and women, are different (see Calabrese et al. 2016), we assume that the IDC of men and women affecting their social and environmental commitment also differ. Therefore, the following assumptions are made:

H3: There are significant differences in the impact of individual dynamic capabilities on the social commitment of managers based on gender.

H4: There are significant differences in the impact of individual dynamic capabilities on the environmental commitment of managers based on gender.

Figure 1. Proposed model



3. Methods

3.1. Sample and data collection

To contrast the above hypotheses, we analysed a sample of 339 managers who completed Masters in Business Administration (MBA) in Catalan universities in Spain during the 2013-2014 and 2014-2015 academic years. The data was collected by MBA professors at those universities. These managers were surveyed at the end of their MBA studies, and the survey was distributed to all MBA students with a response ratio of 100%. The main characteristics of the managers in the sample in terms of educational background, work experience and position in which they work are shown in Table 1.

As shown in Table 1, due to the personal characteristics of the students they are considered as managers. These factors include their age, their experience in job positions as management in companies, and their current placements in managerial positions.

Table 1: Responder profiles.

Variable	FULL SAMPLE (35.40%) N = 339	WOMEN (36.29%) N=130	MEN (64.60%) N=209
Age: average	39	37	40
Degree:			
- University/undergraduate degree	78.17%	80.77%	76.56%
- Master's or PhD	19.17%	19.23%	19.14%
- Other	2.66%	0.00%	4.30%
Work experience:			
- < 1 year	10.03%	9.23%	10.53%
- Between 1 and 5 years	17.11%	13.85%	19.14%
- Between 5 and 10 years	55.16%	52.30%	56.94%
- > 10 years	17.70%	24.62%	13.40%
Current job:			
- Management team	66.37%	76.92%	59.81%
- Entrepreneurs/Other	33.63%	23.08%	40.19%

Managers in the sample have an average age of 40 years; thus, more than 50% of the respondents have work experience of 5 to 10 years. In addition, in view of their current employment, approximately 67% of women and 75% of men held a management position at their last job. A very high percentage of respondents (95%) for both men and women have a university education, which corresponds to the training that managers usually acquire in business. The gender bias of approximately 36% women and 64% men in the sample is consistent with an unequal distribution of access to management positions among men and women, which is an aspect of great importance and suggests various ethical and sociological considerations that have already been highlighted previously in the literature (e.g., Alonso-Almeida et al., 2015a; National Statistics Institute in Spain, 2016).

3.2 Results

Table 2 shows the mean values for the different questions that allow definition of the three constructs under study as well as social and environmental commitment and the respective values that women and men provide for each question posed.

Table 2: The means of the variables that are part of the model

Dimension	Code	Definition	MEAN	WOMEN	MEN
INDIVIDUAL DYNAMIC CAPABILITIES	IDC1	Frequent interactions with third parties to acquire new information	4.51	4.60	4.45
	IDC2	I am attentive to new business opportunities	4.66	4.50	4.76
	IDC3	Seeking new information actively	5.00	4.98	5.01
	IDC4	I see links between seemingly unrelated parts	4.62	4.82	4.50
	IDC5	I can distinguish between profitable and less profitable opportunities	4.63	4.48	4.72
SOCIAL COMMITMENT	SOC COM1	I believe strongly in maintaining employment and the positive effect of a good working environment	5.81	6.13	5.61
	SOC COM2	I think any company should pay the same people who perform the same task	5.41	5.63	5.27
	SOC COM3	Any company should be committed to the community in which it operates	4.86	5.01	4.77
ENVIRONMENTAL COMMITMENT	ENV COM1	I do not understand a business if you do not have a sustainable environmental approach	5.14	5.25	5.07
	ENV COM2	Must train and encourage employees to promote positive environmental initiatives	4.66	4.78	4.59
	ENV COM3	I believe in environmental marketing	4.54	4.64	4.48
	ENV COM4	Any company should quantify savings and environmental costs	5.37	5.63	5.21

The mean values for the questions from the questionnaire show values above 4 for a Likert scale of 1 to 7 in all cases. With regard to both the social and environmental commitment of respondents, the mean values are higher in all cases up to 4, although there is some difference in somewhat higher social commitment values than environmental values.

The statistical study was divided into two distinct parts. The first goal, analysed via factor analysis, was to determine the different dimensions comprising the model to be tested based on the variables that make up the questionnaire. A second aim, once the dimensions were defined, was to test the goodness of the proposed model with a Structural Equation Model (SEM).

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Finally, using the same statistical analysis and structural equation model, we wanted to detect whether there were significant differences between men and women. Then, the work conducted in each part was described in detail.

As Wynne (1998) noted, part of the reason for choosing the method of SEM may be the increase in software packages to perform such covariance-based (e.g., LISREL, EQS, AMOS, SEPATH, AMONA, MX, and CALIS) and component-based (e.g., PLS-PC, PLS-Graph) analysis. SEM-based procedures have substantial advantages over first-generation techniques, such as principal components analysis, factor analysis, discriminant analysis, or multiple regression, because of the greater flexibility that a researcher has for the interplay between theory and data. Specifically, SEM provides the researcher with the flexibility to do the following: (a) model relationships among multiple predictor and criterion variables, (b) construct unobservable latent variables, (c) model errors in measurements for observed variables, and (d) statistically test a priori substantive/theoretical and measurement assumptions against empirical data (i.e., confirmatory analysis).

a. Factor analysis

From an exploratory factor analysis (EFA), those variables that best explained each of the dimensions comprised the model chosen. In addition, and as indicated by the literature (Loiacono et al., 2002), those variables that had less than 0.5 loads were removed from the model. The original set of variables considering IDC are shown in the Appendix of the article. As a result of this first analysis, it can be seen that the variables are grouped into six different dimensions.

Having defined the composition of dimensions, each dimension was subjected to a confirmatory factor analysis (CFA) to debug each construct. The result of this analysis eliminated various factors that did not exceed the threshold load of 0.7 required by the literature; thus, the results were reduced to 12 factors and a 3-dimensional model. These dimensions were subjected to analysis of Cronbach's alpha, exceeding the required value of 0.7 in all cases (Carmines and Zeller, 1979).

In the penultimate stage of this first part of the analysis, consistency, reliability and validity of convergent size were performed and had a composite reliability greater than 0.6 in all cases (Bagozzi and Yi, 1988). The extracted average variance (AVE) was

greater than 0.5, and convergent validity was confirmed in accordance with Fornell and Larcker's study (1981). The main statistical results of the first part can be seen in Table 3:

Table 3. Factorial Analysis dimensions

Dimension	Code	CFA	Internal consistency and reliability statistics
INDIVIDUAL DYNAMIC CAPABILITIES	CDI1	0.811	Cronbach's alpha: .801 Composite reliability: .907 AVE: .661
	IDC 2	0.814	
	IDC 3	0.822	
	IDC 4	0.791	
	IDC 5	0.825	
SOCIAL COMMITMENT	SOC COM 1	0.763	Cronbach's alpha: .821 Composite reliability: .837 AVE: .631
	SOC COM 2	0.808	
	SOC COM 3	0.812	
ENVIRONMENTAL COMMITMENT	ENV COM 1	0.796	Cronbach's alpha: .808 Composite reliability: .867 AVE: .620
	ENV COM 2	0.777	
	ENV COM 3	0.785	
	ENV COM 4	0.791	

Finally, once defined and tested, the dimensions were used in a final analysis of discriminant validity, demonstrating that each construct was more related to its own dimensions than to the dimensions of other constructs in all cases, as seen in Table 4.

Table 4. Discriminant validity

	IDC	SOC COM	ENV COM
IDC	.813*		
SOC COM	.533	.795*	
ENV COM	.284	.304	.787*

*Square root of AVE in the diagonal

b. Contrast of the proposed model

By using EQS 6.1 software and a robust structural equation model, the boom of the proposed model was tested, and the suitability of the proposed model was confirmed via

the main statistical observation. According to the literature, Schermelleh-Engel et al. (2003) established that it is sufficient to have 3 statisticians test the boom and the explanatory power of the defined values of the model according to this methodology. In the model, the minimum requirements are exceeded, confirming the robustness and explanatory power of the model. Table 5 shows the values for the main statistical observation as well as its ideal value according to the literature.

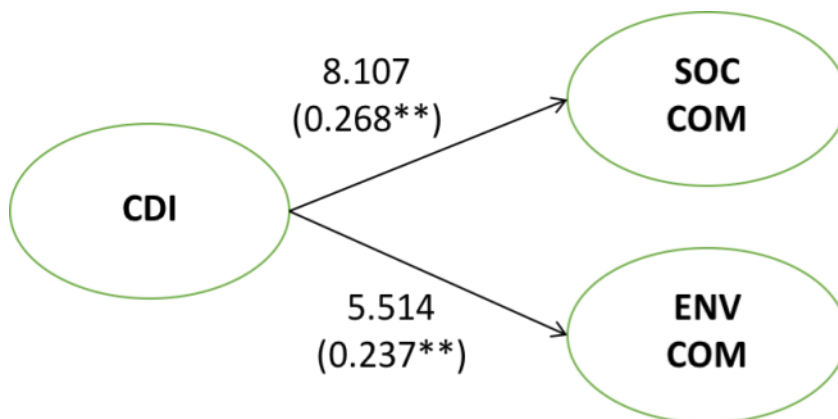
Table 5: Main Statistical Observation (EQS).

Statistics	Result	Ideal Value
x ² /degrees of freedom	2.008	<3
BB-NFI (Bentler – Bonnet normed fit index)	0.814	>0.8
BB-NNFI (Bentler – Bonnet non-normed fit index)	0.921	>0.9
CFI (comparative fit index)	0.907	>0.9
RMSEA (root mean square error of approximation)	0.071	<0.06

* Satorra-Bentler scaled chi-square

To end the results section, and in summary, the statistical model of causal relationships derived is shown in Figure 2.

Figure 2. Standardized solution of the causal model



** Statistically significant at the 0.05 level.

1 **c. Gender differences**

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4 To detect possible differences between men and women, using the same EQS software,
5 a multi-group analysis is conducted. This analysis compares the multiple-group model
6 with a nested model in which the relationships between all the dimensions are
7 constrained to be equal across groups. We can determine whether there are different
8 behaviours according to the subsample using the chi-squared distribution p-value and
9 that calculated from the difference between the chi-square of the two models and the
10 degrees of freedom.

11 These results indicate that there are differences between men and women. In summary,
12 the multiple-group analysis shows that different results are obtained from the separate
13 samples and that the two types of people display different behaviours in terms of social
14 and environmental commitment. The results show that there are differences in the
15 relationship between CDI and SOCCOM and in the relationship between CDI and
16 ENVCOM for men and women. Table 6 shows these results.

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29 Table 6. Standardized values by sub-sample.

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		CDI → SOC COM	CDI → ENV COM
MEN	β	0.263	0.211
	Statistic ¹	7.854**	6.365**
WOMEN	β	0.289	0.242
	Statistic ¹	8.119**	6.012**

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44 ¹ Robust method.

45 ** Statistically significant at the 0.05 level.

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48 Next, the same multi-group study is conducted to determine in detail where the
49 differences are most pronounced by analysing each relationship across dimensions. The
50 standard values and the statistics for the relationships of the complete model are
51 presented in Table 7 to understand the detected differences.
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Table 7. Invariance test for all relationships.

	CDI → SOC COM	CDI → ENV COM
Δx^2	4.148	3.055
$\Delta d.f.$	1	1
p-value	0.029**	0.024**

** Statistically significant at the 0.05 level.

4. Discussion

Barreto (2010) and Caratolli (2013) proposed research to find the relationship between dynamic capabilities and other constructs, especially those that are relevant to the company's sustainability (Adner et al. 2003; Augier et al. 2009; Schaltegger and Wagner 2011; Wilden et al. 2013; Lanza et al. 2014).

This work is aligned with these suggestions because from a methodological point of view, the model seeks to empirically verify the existence of a dynamic relationship between individual skills and greater social and environmental commitment. The model, which is proposed from a wide sample, shows statistically significant results, and all the hypotheses are accepted, not only reinforcing the previous results but also adding some new aspects and opening some development of interest to academic research and policy implementation business training.

The first hypothesis (H1) proposes the existence of a relationship between IDC and dynamic social engagement managers. The results of the structural equation model show a direct and positive relationship between the manager's IDC and his social commitment. This means that, as suggested (Leih et al. 2014), the dynamic capabilities of sensing, seizing and transforming as defined by Teece (2012) are capabilities that help ensure the success and sustainability of the company in general and the social component of sustainability in particular. Therefore, and as a novelty, this paper suggests that the single managerial capabilities of sensing, seizing and transforming (Teece 2012) and the commitment to bring value to society (the social dimension of sustainability) help the company improve the welfare of its employees, customers and citizens through an adequate response to their needs.

1 The second hypothesis (H2) suggests the existence of a direct and positive relationship
2 between the IDC of the manager in his or her commitment to the environment. This
3 second hypothesis is also accepted by strengthening the work of those who conclude
4 that managers should include in their business strategy mechanisms to ensure
5 environmental sustainability (Alonso-Almeida et al. 2014). This paper suggests that
6 individually, managerial capabilities are related to the environmental commitment of the
7 manager so that managers are more sensitive to environmental issues, such as climate
8 change or green products and services, thus helping to boost the deployment of
9 environmental measures in the company with a positive impact on society (Kassinis et
10 al. 2016)

11 These first two results show that the direct and positive relationship dynamic
12 capabilities of the manager are more significant with regard to social commitment, with
13 an associated value of 8.107, although both are statistically significant in their
14 environmental commitment (5.514). The previous academic literature has analysed the
15 importance of including environmental and social objectives in the manager's objective
16 (Schaltegger and Wagner, 2011; Garriga and Mele 2013) function. This paper proves
17 that IDC seem to help drive the company's social commitment more than its
18 environmental commitment, although both are relevant. Thus, the single dynamic
19 managerial capabilities are configured as an engine of corporate sustainability. The very
20 definition of IDC as visionary capacities with adaptation and innovation make the
21 perception of sustainability in its social aspect the backbone of any initiative that the
22 company will develop, taking into account environmental concerns (Alonso-Almeida et
23 al. 2015b). Social commitment refers to the social promotion of businesses and their
24 mechanisms to improve the welfare of society, reduce social inequalities, improve
25 quality of life, and promote the common good and human rights (Bansal 2005, Tata and
26 Prasad 2014). One possible explanation of why the social impulse is greater than the
27 environmental impulse can be explained by the fact that social measures taken by
28 companies are those that ensure long-term sustainability, whereas environmental
29 measures respond to short-term actions to preserve the environment.

30 Finally, the third (H3) and fourth (H4) hypotheses analyse whether significant
31 differences are produced by the manager's gender on the impact of IDC of their social
32 and environmental commitment. The results of structural equation modelling show that
33 there are significant differences in both social commitment (a variable value of 8.119

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for women and 7.854 for men) and the environment (a variable value of 6.365 for men compared to 6.012 for women). The previous literature reveals two channels of research. The first affirms that social commitment is greater for women, whereas environmental commitment is greater among men than women (Hindle, Klyver and Jennings 2009; Kronsell et al. 2014; Santos et al. 2016). The second, following the eco-feminist theories that establish a relationship with women and the environment as a result of their connection with nature, suggests that environmental commitment is higher in women than in men (Alonso-Almeida 2012, 2013; Fernandez-Feeijo, Romero and Ruiz Blanco, 2014). This research reinforces the results of both streams of previous literature claiming that social commitment is higher in women than in men. One possible explanation for women's greater social commitment is that they possess the common features of being warm, nurturing, interpersonally sensitive, and concerned for others' welfare (Eagly et al. 2003). In addition, networking relationships established with partners, cultural values and the beliefs of women increase their social commitment compared to men (Santos et al. 2016). As a new study, the results support emerging research stating that environmental commitment is also higher in women than in men because women are more environmentally conscious due to their perception of environmental health risks (Park et al. 2012), their sensitivity to the effects of climate change (Ciocirlan and Pettersson 2012) or their concern regarding attitudes related to the environment (Diamantopoulos et al., 2003). Furthermore, the greater female engagement with social and environmental values could be manifested by a greater concern for creating value for society and improving environmental conditions (Karam and Jamali, 2013).

5. Conclusions and recommendations

The contribution to knowledge in this paper shows that managers' IDC help them to be alert to changes in the market and adapt earlier to those changes. This allows managers who have a greater social and environmental commitment to promote sustainability in the company. From a gender perspective, this research has established that the relationship between IDC with the social commitment of the manager is greater when the company's leader is a woman. Previous research has asserted that women have higher social commitment than men, but this was not clear in the case of the

1
2 environment, where results were mixed. In addition, no paper was found with the
3 relation between IDC of managers and sustainable engagement depending on gender.

4 Thus, the findings show the relationship between IDC to the manager's environmental
5 commitment is also higher among women, contrary to previous research (Hindle,
6 Klyver and Jennings 2009; Kronsell et al. 2014; Santos et al. 2016). This finding is
7 relevant because it suggests that companies with the proper managerial capabilities
8 could accelerate sustainability development and slow down some worldwide problems
9 such as climate change, pollution and social inequalities.

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12 The results provide a number of conclusions relevant to the business environment, the
13 education sector and academia.

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16 The first conclusion suggests that companies require managers with dynamic
17 capabilities to adapt to new environments of rapid and unpredictable changes. This
18 capability and the ability to quickly adapt to different environments allows businesses to
19 survive and avoid exiting the market. This idea is in line with the theory of evolutionary
20 economics (Alchian, 1950, Nelson and Winter, 1982), which states that managers must
21 continually change and adapt to new situations that the market demands. Moreover,
22 these IDC count as part of the managers' strategic thinking and drive in business
23 innovation (Calabrese et al. 2015). To adapt to social and environmental changes that
24 the market demands, companies should be able to offer products and services that cause
25 less pollution while contributing to a better quality of life.

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28 The second conclusion proposes the inclusion of more women in top management
29 teams to ensure the company's sustainability (Khan and Vieito, 2013; Kogut et al.
30 2014). Women's greater social and environmental commitment helps companies
31 provide the more socially and environmentally responsible products and services
32 demanded by new customers, create value for society and improve environmental
33 conditions, as explained in the results section. For this reason, companies must adopt
34 specific programmes or examples of good practices to empower and advance women in
35 companies. Therefore, the present study suggests that women can contribute by
36 enhancing companies' sustainability, and their placement in top management positions
37 is recommended.

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2 For education, this study highlights several recommendations. First, it emphasizes the
3 need to incorporate programmes for the development of IDC into educational
4 programmes and the learning processes of future business managers. Second, it
5 recommends strengthening the role of women in management teams in companies to
6 ensure the inclusion of social and environmental measures to promote companies'
7 sustainability. Finally, the study recommends updating business plans and training
8 workers to include the development and incorporation of these dynamic skills into the
9 company's daily management at all levels for all employees regardless of gender. The
10 positive effects of these skills are not only greater economic growth but also greater
11 development of adaptability to change and productivity. In addition, this involves
12 determining business objectives and social and environmental considerations, which are
13 increasingly demanded in today's society.
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22 Finally, for academia, several paths of research are proposed. First, the individual
23 capabilities that managers need to adapt to new environmentally related situations need
24 to be further defined, especially those that are relevant to the company's sustainability.
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29 In addition, the relationship of IDC and the managers' social and environmental
30 commitment must be strengthened from a gender perspective. More research is required
31 along the lines of gendered IDC and their impact on business sustainability and
32 sustainable development. Specific research to advance in the field of IDC could be the
33 analysis of each IDC impact on business sustainability and the concrete measures
34 adopted by the company's managers regarding those relationships. Furthermore, as IDC
35 are not static and change in order to adapt to new market requirements, it could be
36 interesting to detect managers' new dynamic capabilities that determine the leaders'
37 strategic thinking, as noted by Calabrese et al. (2015), and analyse their impact on the
38 managers' social and environmental commitment.
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48 Third, the new field of study on Gendered Social Responsibility (GSR) (Velasco et al.,
49 2014; Larrieta-Rubin de Celis et al., 2015) analyses whether the dynamic capabilities of
50 managers from a gender perspective contribute to establishing measures of social
51 corporate responsibility that promote gender equality. It also analyses the measures of
52 Corporate Social Responsibility that are adopted by enterprises, specifically with regard
53 to women in top management teams, and this field requires more contributions.
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Finally, the study has some limitations. First, the sample of MBA students used as managers may not be fully representative of all managers, despite that parallel drawn in this study, as managers of companies must meet the social and environmental criteria required. A second limitation is the geographical area from which the sample was taken. New empirical research is necessary to reaffirm our conclusions.

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5. RESULTADOS Y DISCUSIÓN

Los resultados que se han conseguido a partir de los objetivos fijados en esta tesis doctoral son cuatro.

El primer resultado obtenido refuerza la propuesta de triple constructo de las IMDC establecida por la literatura previa y añade como novedad diferencias significativas entre el peso de las tres dimensiones en la configuración de las ES y las IDC.

En el primer artículo, la capacidad que tiene mayor peso en la configuración de las ES es la de alertness -estar atento a nuevas oportunidades de negocio- seguida de la de creativity -ser capaz de generar diversas soluciones que proporcionen valor- y, por último, y con un peso menor, la de self-awareness -o capacidad para cuestionarse ideas.

En el segundo artículo, la destreza que tiene mayor peso en la formación de las IDC es la de sensing -habilidad para reconocer nuevas oportunidades de negocio en el mercado-, seguida de la de seizing -gestionar los recursos y la inversión de manera diferente para crear valor- y en último lugar por su grado de relevancia, la de transforming -capacidad para transformar productos, servicios, mercados y la propia organización a través de la innovación continua.

Una posible explicación es que en entornos cambiantes, como en épocas de crisis o ante un mercado dinámico, en los directivos prima la capacidad de reconocimiento de nuevas demandas, nuevos clientes y nuevos mercados a los que atender (alertness y sensing) y a los que responder a través de propuestas innovadoras (creativity y seizing).

El segundo resultado obtenido sugiere que hay una relación directa y significativa entre las IDMC del mánager y su compromiso social y medioambiental. A la vista de este resultado, las IDMC pueden ser consideradas como motor de la sostenibilidad corporativa.

En los tres artículos, los resultados demuestran que existe una relación estrecha entre el grado de desarrollo de las IDMC y el nivel de compromiso tanto social como ambiental del mánager. Dicha relación toma mayor relevancia en lo referente a su nivel de implicación social. Estos resultados refuerzan la idea de otros autores que sugieren que la dimensión social de la sostenibilidad -que comprende los mecanismos para mejorar el bienestar de la sociedad, reducir las desigualdades sociales, aumentar la calidad de vida y promover el bien común y los derechos humanos (Bansal, 2005; Tata y Prasad, 2015)- ayuda a la empresa a acrecentar el bienestar de sus empleados, clientes y ciudadanos en general al responder de forma adecuada a sus necesidades. Además los resultados también sugieren que se da una correspondencia significativa entre el grado de desarrollo de las IDMC y el nivel de compromiso ambiental del mánager, y apuntan que los gestores de las empresas deben incluir en la estrategia corporativa mecanismos para garantizar la sostenibilidad del medioambiente (Alonso-Almeida et al., 2014, 2015). Una posible explicación es que los gerentes son más sensibles a las cuestiones ambientales, como el cambio climático o los green products and services, y por este motivo ayudan a impulsar el despliegue de medidas con un impacto positivo en la sociedad (Kassinis et al., 2016).

El tercer resultado obtenido sugiere que existe una relación directa y significativa entre el compromiso social y ambiental del mánager con una estilo de liderazgo más orientado a los stakeholders; si bien la relación entre el compromiso social y la orientación hacia los stakeholders es más potente que la relación con respecto al compromiso ambiental.

Adner et al. (2003) ya estableció una relación directa y positiva entre el compromiso social del gerente de la organización, como competencia propia, y su compromiso con los stakeholders. En este sentido, esta investigación sugiere que el grado de implicación social del mánager es más significativo que el medioambiental, e influye directa y positivamente en el compromiso con los stakeholders y en la sostenibilidad de la cadena de valor (value chain sustainability). Pero además, y como novedad, añade que también existe una relación directa y sustancial entre el compromiso ambiental del mánager y su compromiso con los stakeholders. Dos sugerencias se establecen a partir de

los resultados obtenidos. La primera es que el compromiso social es superior al ambiental posiblemente porque son los propios stakeholders quienes están más interesados en el primero y no en el segundo, al valorar más positivamente el código ético de los managers que la incorporación de medidas medioambientales (Alonso-Almeida et al., 2015a). La segunda sugerencia es que los stakeholders con los que se relaciona la empresa cada vez están más concienciados de las repercusiones de estas en el medioambiente, como, por ejemplo, en el cambio climático. En consecuencia, las regulaciones en este ámbito se están endureciendo a nivel mundial (Alfaro et al., 2008; Clemow et al., 2012; Gudynas, 2013; entre otros).

El cuarto resultado de la presente tesis doctoral hace referencia a posibles diferencias de sexo en la relación entre el grado de desarrollo de las IDMC y el nivel de compromiso tanto social como ambiental del manager. Los resultados obtenidos del modelo de ecuaciones estructurales demuestran que existen diferencias provocadas por el género del manager tanto en el compromiso social como el ambiental. En este sentido, es la mujer la que presenta una mayor sensibilidad hacia ambos, por lo que estos resultados refuerzan la literatura previa en la que se establece que tiene más implicación social que el hombre. Una posible explicación es que la mujer se vincula más socialmente a causa de los rasgos comunes de su sexo: cordialidad, crianza, sensibilidad interpersonal y preocupación por el bienestar de los demás (Eagly et al., 2003). Además, las relaciones que establece con sus colaboradores, así como sus valores culturales y creencias, incrementan su compromiso social frente al de los hombres (Santos et al., 2016).

Como novedad, contraria a la literatura previa y apoyando a una incipiente investigación, los resultados sugieren que el compromiso ambiental femenino es también superior al masculino. Una posible deducción es que las mujeres están más comprometidas porque también tienen una mayor conciencia ecológica al percibir los riesgos en la salud del medioambiente (Park et al., 2012), por su sensibilidad hacia los efectos del cambio climático (Ciocirlan y Pettersson, 2012), o por su preocupación con respecto a las actitudes relacionadas con el medioambiente (Diamantopoulos et al., 2003).

Otra posible interpretación es que los hombres tienen una orientación mayor a los resultados a corto plazo, mientras que las mujeres están más orientadas a los obtenidos a largo plazo, que responden a la sostenibilidad de la empresa. Ante los entornos dinámicos actuales, los hombres observan que la inmediatez no da los frutos esperados, y por este motivo van adquiriendo mayor sensibilidad por los temas sociales y ambientales que implican resultados a largo plazo.

A la vista de estos resultados, se puede intuir que la empresa no entiende de sexo, sino que necesita de un equipo de dirección equilibrado que disponga de compromiso social y ambiental y lo incluya en la estrategia corporativa para garantizar su sostén a largo plazo.

6. CONCLUSIONES

La contribución de la presente tesis doctoral muestra que las IDMC del mánager ayudan a estar alerta a los cambios en el mercado y a adaptarse antes a ellos. Esto permite a los managers disponer de un mayor nivel de compromiso social y ambiental para promover la sostenibilidad en la empresa. Además el compromiso social y ambiental del mánager impulsado por las IDMC tiene efecto en el nivel de compromiso con los stakeholders, siendo los mánagers que disponen de IDMC y mayor sensibilidad social y ambiental, los que están más comprometidos con los stakeholders que se relacionan.

Desde una perspectiva de género, la presente tesis doctoral ha establecido que la relación entre el grado de desarrollo de las IDMC y el nivel de compromiso social y ambiental del mánager es mayor cuando el líder de la empresa es mujer. Esta conclusión es relevante ya que sugiere que aquellas empresas con líderes poseen las capacidades de gestión adecuadas pueden acelerar el desarrollo de la sostenibilidad y reducir problemas globales como el cambio climático, la polución y las desigualdades sociales.

A la vista de estas aportaciones, se realizan una serie de conclusiones para la academia, el ámbito empresarial y las administraciones públicas.

Para el ámbito académico, se proponen las siguientes conclusiones. En primer lugar, y siguiendo a Augier y Teece (2008), Teece (2012) y Lanza et al. (2014), se debe continuar investigando para determinar cuáles son las IDMC que debe poseer el mánager para hacer frente a los cambios en el entorno. La presente tesis doctoral ha avanzado un paso más, determinando el peso de cada variable para la formación de las IDMC, bajo la perspectiva de las ES y las IDC. Sin embargo, las capacidades dinámicas, tal como indica su nombre, no son estáticas, y no responden a un patrón de comportamiento que sea válido para los posibles giros inesperados del contexto. Por este motivo podría resultar interesante investigar otras IDMC necesarias para adaptarse a futuros e inesperados entornos económicos.

En segundo lugar, tal como proponen McKelvie y Davidsson (2009), Baretto (2010), Wilden et al. (2013) y Leih et al. (2014), se debe seguir estudiando para conocer el impacto de las IDMC sobre la sostenibilidad empresarial. La presente tesis doctoral ha concluido que existe una relación entre el grado de desarrollo de las IDMC y el nivel de compromiso social y ambiental del mánager. Se necesita seguir avanzando con estudios más profundos que analizan que medidas establecen dentro de la empresa éstos managers que han desarrollado IDMC y poseen compromiso social y ambiental.

En tercer lugar, no sólo existen diferencias de género en la gestión y el liderazgo, sino también en el grado de desarrollo de las IDMC y el nivel de compromiso social y ambiental de hombres y mujeres. La presente tesis doctoral puede significar el inicio de una nueva línea de investigación. Se debe conocer el impacto de esta relación en las medidas que adoptan hombres y mujeres en la estrategia de la empresa así como en las medidas de responsabilidad social de las empresas, siguiendo el nuevo campo de investigación sobre responsabilidad social con enfoque de género - Gendered Social Responsibility- (GSR) (Torre y Mauri, 2009; Carrillo, 2013; Velasco et al., 2013, Larrieta-Rubín de Celis et al., 2015).

En el ámbito empresarial, una primera conclusión que se deriva es que el grado de desarrollo de las IDMC puede facilitar la supervivencia de las empresas y evitar su salida del mercado. Esta idea va en la línea de la teoría de la economía evolutiva (Alchian, 1950; Nelson y Winter, 1982), que establece que los gerentes deben cambiar continuamente y adaptarse a las nuevas situaciones que demanda el mercado. Con el fin de garantizar la incorporación de las IDMC, las empresas deben disponer de planes de formación tanto para el equipo de gestión como para los trabajadores- stakeholders más cercanos con el que se relaciona-, de manera que incluyan el desarrollo de las mismas, y las incorporen en la gestión diaria de la empresa a todos los niveles de decisión y para todos los empleados. Los efectos positivos de incidir en estas competencias no son sólo un mayor crecimiento económico, sino también el desarrollo de un tejido productivo más adaptable y rápido frente a los cambios inesperados.

Una segunda conclusión que se realiza para el ámbito empresarial es que la adquisición de IDMC y el grado en el que se vayan desarrollando impactarán en el nivel de compromiso social y ambiental de los managers. De este modo, serán capaces de dar respuesta a los cambios sociales y ambientales que exige el mercado ofreciendo productos y servicios que causen menos contaminación al tiempo que contribuyan a una mejor calidad de vida. En esta línea, se considera a las IDMC como motor de la sostenibilidad.

Una tercera conclusión para las empresas es la inclusión de criterios sociales y ambientales en la estrategia de la empresa que incluyan a los stakeholders clave para la empresa: empleados, proveedores y clientes; así como la sociedad en general. Algunos ejemplos de medidas a incorporar pueden ser: pagar el mismo salario a los empleados que realizan el mismo trabajo, promover el reconocimiento a través de medidas no económicas (premios, flexibilidad horaria, promoción,...), aportar valor a la comunidad en la que opera, crear un entorno de trabajo creativo para detectar talento y fomentar la innovación, introducir costes e ingresos ambientales derivados de cada acción llevada a cabo por la empresa; entre otros.

Finalmente, dado que los resultados de la presente tesis doctoral sugieren que las mujeres tienen más sensibilidad social y ambiental que los hombres, se recomienda la inclusión de más mujeres en los equipos de alta dirección con el fin de garantizar la sostenibilidad de la empresa (Khan y Vieito, 2013; Kogut et al., 2014). Su mayor compromiso social y ambiental ayuda a las corporaciones a proporcionar los productos y servicios más social y ambientalmente responsables que demandan los nuevos clientes (Verain et al 2016; Boivin et al., 2016), a crear valor para la sociedad y a mejorar las condiciones ambientales (Karam y Jamali, 2013). Por esta razón, es necesario que las empresas adopten programas o ejemplos de buenas prácticas específicas para potenciar y promover el papel femenino en las compañías. Con ello se puede conseguir que los equipos de dirección sean equilibrados tanto en las IDMC como en su compromiso con la sostenibilidad.

Las conclusiones para la administración pública se resumen en las siguientes. En primer lugar, los encargados de plantear y gestionar políticas de desarrollo

industrial y de apoyo a la pequeña y mediana empresa deberían tener en cuenta políticas que fomenten una orientación estratégica de las empresas más allá de los resultados económicos basadas en criterios sociales y ambientales. El entorno altamente cambiante y competitivo al que se enfrentan las empresas exige el desarrollo de modelos de gestión empresarial que permitan la implementación de ventajas competitivas sostenibles a largo plazo. Para ello es necesario trabajar las capacidades que incluyan criterios sociales y ambientales, y generar valor para los stakeholders, empleados, proveedores, clientes y sociedad en general.

En segundo lugar, es necesario incluir el desarrollo de las IDMC en los programas de estudio relacionados con la formación de los futuros managers así como en los programas de formación continua. La inclusión de las IDMC en los programas de estudio ayuda a que los managers adquieran nuevas habilidades que les ayuden a incorporar en la estrategia empresarial los criterios sociales y medioambientales que demandan los stakeholders y que garantizan la sostenibilidad de la empresa a largo plazo.

Por último, se deben fomentar políticas que permitan la inclusión de más mujeres en los puestos de toma de decisiones estratégicas de las empresas con el fin de garantizar la sostenibilidad de la empresa en el tiempo. El mayor compromiso social y ambiental de las mujeres ayuda a las empresas a encontrar el equilibrio necesario de criterios sensibles a la sostenibilidad en el diseño de su estrategia. De este modo, al disponer de un equipo de dirección que vela por los resultados de la empresa más allá del rendimiento económico, es posible proporcionar productos y servicios social y ambientalmente más responsables siguiendo las demandas de los clientes, creando valor para la sociedad y mejorando las condiciones ambientales, según sugiere la presente tesis doctoral.

Finalmente, es importante señalar que esta tesis presenta limitaciones tanto en la muestra utilizada como en los criterios sociales y ambientales que definen la sostenibilidad empresarial. Son las que se detallan a continuación:

La primera limitación es que la muestra de los estudiantes de MBA entrevistados puede no ser representativa de todos los managers, a pesar de

que en esta tesis se les ha tratado como a futuros gerentes de empresa que deben cumplir con los criterios sociales y medioambientales requeridos.

La segunda limitación, también derivada de la muestra, reside en la zona geográfica en la que ésta se tomó. Las encuestas se llevaron a cabo entre estudiantes de MBA en España, principalmente en Cataluña; por lo tanto, podría ser difícil extrapolar los resultados a otros países debido a los diferentes antecedentes culturales de los encuestados. Son necesarios nuevos estudios empíricos para reafirmar las conclusiones.

Finalmente, otra posible limitación son los criterios sociales y ambientales que se han utilizado para definir la sostenibilidad empresarial así como el compromiso con los stakeholders. Aunque se han seguido otras investigaciones que utilizan las mismas variables, se deberían contrastar los resultados con otras variables que definan las dimensiones estudiadas.

Se proponen diversas líneas de investigación derivadas de la presente tesis doctoral. Una primera resulta de la importancia que cobran los stakeholders en la orientación al mercado y en las políticas estratégicas de las empresas tal como se anunciaba en la introducción de la presente tesis doctoral. Por este motivo, como futura línea de investigación, se propone analizar la relación entre el grado de desarrollo de las IDMC y la orientación al mercado de las empresas. Sería interesante comprobar si la relación es más fuerte al incluir el nivel de compromiso con la sostenibilidad del manager como efecto mediador para que se cumpla dicha relación.

Una segunda línea de investigación se enfoca en el desarrollo de la incipiente aportación de la presente tesis doctoral referente a las diferencias de género entre el grado de desarrollo de las IDMC y el nivel de compromiso social y ambiental del mánager. Se propone comprobar si estas diferencias existen también en la relación con el compromiso con los stakeholders. El objetivo es analizar qué medidas adoptan hombres y mujeres en relación a la sostenibilidad de la empresa y su relación con los stakeholders.

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