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The Role of Institutional Pressure and Dynamic Capabilities in Promoting Energy Efficiency Practices: Evidence from the Moroccan Manufacturing Sector

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ABSTRACT

As most world countries, Morocco is facing energy challenges related to the increase in energy consumption resulting from the population growth. Thus, energy efficiency practices are increasingly considered as a priority for the country. Manufacturing companies are pivotal elements to improve energy efficiency. Despite the ambitious Moroccan strategy for energy efficiency, a considerable number of manufacturing companies are lagging in terms of energy efficiency. By drawing on institutional theory, we construct a research model that aims to assess the effect of institutional pressure on energy efficiency practices. Importantly, we explore the mediating role of dynamic capabilities between institutional pressure and energy efficiency practices. Our research model was empirically tested using survey data collected from 193 manufacturing companies located in four different regions of Morocco. Results show that companies' dynamic capabilities positively influence companies' energy efficiency practices. Coercive pressure is not positively related to dynamic capabilities, whereas normative and mimetic pressure are positively related to dynamic capabilities. Coercive pressure does not directly influence energy efficiency practices and does not influence energy efficiency practices through the mediation of dynamic capabilities. Normative and mimetic pressure directly influence energy efficiency practices and influence energy efficiency practices through the mediation of dynamic capabilities.

Keywords: Energy Efficiency Practices, Institutional Pressure, Dynamic Capabilities
JEL Classifications: Q480, Q410, Q31, O130.

1. INTRODUCTION

The continuous rise in energy consumption is not only causing a depletion of fossil fuels, but is also causing climate change, which is compromising the sustainability of the planet and humankind. As one of the most developed economies and leading countries in Africa, Morocco could set an example for an entire continent in terms of energy efficiency, a continent where the energy efficiency gap is sizeable (Apeaning and Thollander, 2013). The manufacturing sector which is an energy-intensive sector, could play a consequent role in reducing the world's energy consumption, and the Moroccan's energy consumption (El Iysaouy et al., 2019).

Acknowledging the centrality of manufacturing companies in terms of reducing the energy efficiency gap, and with the aim of enhancing the sustainability and the competitiveness of manufacturing companies, researchers begin to study energy efficiency in the manufacturing sector (Di Foggia, 2021). Several studies have explored factors that inhibits energy efficiency practices within manufacturing companies (Hasanbeigi et al., 2010; Trianni et al., 2013; Chiaroni et al., 2017; Zafar, 2021). Other papers have emphasized the driving forces for energy efficiency practices (Cagno and Trianni, 2013; Solnørdal and Foss, 2018; König et al., 2020; Smith et al., 2022). These studies enhanced the understanding of the scholar and practitioner community regarding the energy efficiency gap. However, many of these studies use semi-structured interviews or case studies. Only a limited number of them have constructed a research model based on theory which they have subsequently empirically tested with the aim of comparing the data against a theory or multiple hypotheses (Zhang et al., 2018). In this regard, the theory-based empirical research on energy efficiency practices within companies is characterized by its sparsity (Suk et al., 2013; Liu et al., 2014; Zhang et al., 2018; Guo et al., 2020). Thus, more theory-based empirical research conducted in various countries is critical to enhance even more our understanding regarding energy efficiency.

Improving energy efficiency in manufacturing companies is one of the key elements of the Moroccan strategy for energy efficiency for 2030, making energy efficiency a national priority (Mohamed, 2017). In this regard, the Moroccan government has adopted a stringent and comprehensive framework Law 47-09 in 2011 (IAE, 2019), which was subsequently followed by a secondary legislation (e.g., a decree establishing thermal regulations for buildings adopted in 2018, and a decree establishing mandatory energy audit for transport and industry adopted in 2019). The Moroccan government has made numerous policies to promote energy efficiency practices within manufacturing companies, including mandatory report of the installed power capacity; mandatory energy audits for manufacturing companies exceeding a specific consumption threshold (El Iysaouy et al., 2019); provisions on technical control and various penalties (IEA, 2019).

Despite the external pressure, several manufacturing companies in Morocco do not adopt energy efficiency practices (Mohamed, 2017), hence the relevance of asking the following question: Besides institutional pressure, what factor could promote energy efficiency practices in the Moroccan manufacturing sector?

The existing literature on companies' organizational behavior supports that dynamic capabilities are a vital factor in accelerating organizational change (Sune and Gibb, 2015; Bojesson and Fundin, 2020), including energy efficiency (Saudi, 2020). Because dynamic capabilities enable companies to identify and seize the best opportunities, including those related to energy efficiency. The existing literature centers on the effect of a given factor (e.g., dynamic capabilities, external pressure) on energy efficiency practices (Zhang et al., 2022). In this research, we explore the potential role of companies' dynamic capabilities as a mediator between external pressure and energy efficiency practices within manufacturing companies in Morocco.

We construct a research model based on institutional theory, integrating external pressure and dynamic capabilities, with the aim of exploring their influencing mechanism on energy efficiency practices within manufacturing companies in Morocco.

We start by elaborating the research model, the theorical background describing the institutional theory, dynamic capabilities, and we formulate the research hypotheses. Then, we present the process of data collection and data analysis method. Subsequently, the results of the study are presented, followed by the discussion. At last, we present policy implications.

2. THEORETICAL BACKGROUND AND RESEARCH HYPOTHESES

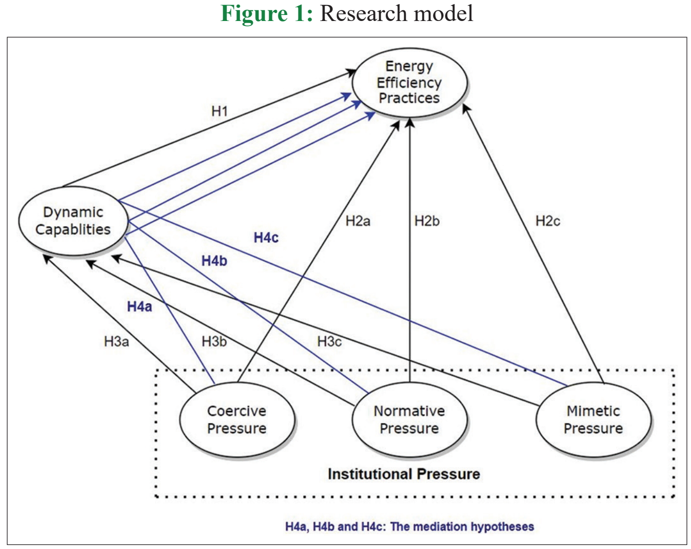
This study aims to understand the significant issue of energy efficiency practices within companies. Based on the literature regarding organizational behavior, we construct a research model exploring the importance of institutional pressure and companies' dynamic capabilities on energy efficiency practices (Figure 1).

2.1. Dynamic Capabilities

The relationship between organizations and their operational environment is a prominent theme among organization theorists. The close-system approaches exclude interactions between organizations and their business environment, whereas the open-system approaches suggest that organizations exist to transform inputs from their environment into outputs back to their environment, through added-value process (Makkonen et al., 2014). The open-system approaches include a deterministic view where organizations are at the whim of their external environment, and a voluntaristic view where organizations conscientiously take strategic actions to gain from their environment (Makkonen et al., 2014). To benefit from their environment in an open-system view, organizations need to possess several capabilities, including dynamic capabilities.

Dynamic capabilities refer to organizations' ability to integrate, to develop and reconfigure both internal and external competences to cope with fast changing business environments (Teece et al., 1997). Dynamic competitive environments require from organizations to deliberately generate, adjust, and extend their resource and capability base that might be challenged in instable circumstances, and that could be preventing organizations from identifying and adapting to external environmental changes (Helfat et al., 2007). Thus, dynamic capabilities reflect organizations' ability to rapidity to properly realign their competences and resources to meet the opportunities and the requirements of their environment (Stalmokaitė and Hassler, 2020). Dynamic capabilities include identifying opportunities, mobilizing resources to make the most out of them, and to continually transform (Kump et al., 2019).

Figure 1: Research model



There is prominent evidence that dynamic capabilities are crucial to establish organizational changes within companies (Makkonen et al., 2014), including technology adoption (Graham and Moore, 2021), circular economy (Khan et al., 2020), sustainable supply chain management (Isnaini et al., 2020), and sustainability transitions (Stalmokaitė and Hassler, 2020). In his empirical study, Saudi (2020) found a positive impact of dynamic capabilities on energy efficiency practices. By possessing dynamic capabilities, companies could detect and incorporate the best practices including those related to energy efficiency. Thus, we propose the following hypothesis.

Hypothesis 1: Dynamic capabilities are positively related to energy efficiency practices.

2.2. Institutional Theory

Institutional theory provides an explanation on why organizational practices and structures take place and become ingrained (Debroux, 2010). This theory emphasizes the role of the various political, economic, and social systems in which organizations operate, on their organizational behavior (DiMaggio and Powell, 1983). Institutions establish the rules of the game (North, 1991), define patterns, and provide guidance on what would or would not be acceptable (Debroux, 2010). Three pillars of institutional pressure exist (DiMaggio and Powell, 1983): Coercive or regulative pressure, normative pressure, and mimetic pressure.

Institutional theory is largely used to explore reasons behind behavioral change, namely corporate social responsibility (Brammer et al., 2012), sustainable supply chain management (Shibin et al., 2020), green innovation (Chen et al., 2018), green information technology usage (Alziady and Enayah, 2019), and energy efficiency practices (Garrone et al., 2018). Therefore, institutions provide consistency to organizations' behavior (Debroux, 2010).

However, the existing literature is divided regarding the influence of institutional pressure on organizational behavior. Many researchers suggest that organizational behavior is positively influenced by institutional pressure (Berrone et al., 2013; Garrone et al., 2018; Chen et al., 2018; Jiao et al., 2021; Hu et al., 2022; Ma et al., 2022). Other scholars indicate that institutional pressure only have a slight influence on organizational behavior (Liu et al., 2012; Zhu and Geng, 2013; Kunapatarawong and Martínez Ros, 2013; Tate et al., 2014). For other researchers, institutional pressure can influence organizational behavior only through the mediation of internal factors (Shafique et al., 2017; Zhang et al., 2018; Charan and Murty, 2018; Mady et al., 2022; Huang and Huang, 2022).

2.2.1. Coercive pressure

The coercive pressure is exerted by organizations such as the state, the government, etc. Coercive pressure underlies conformity to laws (DiMaggio and Powell, 1983). This pressure is exerted through command instruments that are compulsory requirements constraining companies to adopt certain behavioral patterns. In case companies ignore the regulations, penalties will be applied. The Moroccan policies, by introducing energy quotas and setting standards, rely on coercive pressure to close the energy efficiency gap in the country (IEA, 2019).

2.2.2. Normative pressure

The normative pressure is related to professionalization (Deng and Ji, 2015), and stems from norms determined by industry institutions (Krell et al., 2016), these institutions tend to progressively build a consensus regarding the best practices and technologies, which is likely to exert an influence on organizational behavior (Coffey et al., 2003). Unlike coercive pressure, normative pressure is exerted by institutions that have no authority to apply penalties or to enforce compliance (Alziady and Enayah, 2019). In this regard, companies adhere to norms defined by industry institutions because they believe those norms are beneficial for them (Deng and Ji, 2015).

2.2.3. Mimetic pressure

Mimetic pressure originates from positive feedback from early movers in the industry, which elicits more organizations to mimic the same behavior (Deng and Ji, 2015). An organization could also mimic other organizations when the environment in uncertain (DiMaggio and Powell, 1983).

Many researchers suggest that organizational behavior is positively influenced by institutional pressure (Chen et al., 2018; Jiao et al., 2021; Hu et al., 2022). Institutional pressure could lead to enhance companies' environmental behaviors (Delmas and Toffel, 2004; Garrone et al., 2018; Lui et al., 2021). Zhang et al. (2018) found a positive relationship between institutional pressure and energy-saving behaviors. By exerting coercive pressure, governments could compel companies to adopt a specific behavior, this pressure could lead to the adoption of environmental practices (Latif et al., 2020), and enhance sustainability within companies (Masocha and Fatoki, 2018). Also, by exerting normative pressure, industry institutions could influence companies' behavior toward more environmental practices (Berrone et al., 2013). In addition, mimetic pressure is an efficient way that leads to sustainability (Zeng et al., 2017). Therefore, we believe that institutional pressure is positively related to energy efficiency practices.

Hypothesis 2: Institutional pressure is positively related to energy efficiency practices.

H2a: Coercive pressure is positively related to energy efficiency practices.
H2b: Normative pressure is positively related to energy efficiency practices.
H2c: Mimetic pressure is positively related to energy efficiency practices.

The existing literature on companies' behavior supports that internal capabilities are a vital factor in accelerating organizational change (Paulraj, 2011; Ketata et al., 2015). Internal capabilities such as dynamic capabilities allow companies to be more responsive to market change (Sher and Lee, 2004). Dynamic capabilities help companies to rapidly realign their resources to meet government's requirements (Zhu et al., 2013). Additionally, by possessing dynamic capabilities, companies would be informed regarding the norms specified by industry institutions, including the best energy efficiency practices, and it would be easier for them to incorporate them into their existing processes. Furthermore, by possessing dynamic capabilities, companies would be more likely to detect and implement energy efficiency practices that their rivals benefited from. Therefore, we present the following hypothesis.

Hypothesis 3: Institutional pressure is positively related to dynamic capabilities.
H3a: Coercive pressure is positively related to dynamic capabilities.
H3b: Normative pressure is positively related to dynamic capabilities.
H3c: Mimetic pressure is positively related to dynamic capabilities.

Some researchers suggest that internal capabilities including dynamic capabilities mediate the relationship between external pressure in general and companies' behavior (Zhu et al., 2013; Charan and Murty, 2018). Thus, we believe that dynamic capabilities mediate the relationship between institutional pressure and energy efficiency practices.

Hypothesis 4: Institutional pressure is positively related to energy efficiency practices through the mediation of dynamic capabilities.
H4a: Dynamic capabilities mediate the relationship between coercive pressure and energy efficiency practices.
H4b: Dynamic capabilities mediate the relationship between normative pressure and energy efficiency practices.
H4c: Dynamic capabilities mediate the relationship between mimetic pressure and energy efficiency practices.

3. METHODS

A questionnaire survey method was employed. It is known that questionnaire survey method is a dependable method to collect accurate quantitative and qualitative feedback (Taherdoost, 2016). Moreover, this method is commonly adopted to study organizational behavior (Liu et al., 2012).

3.1. Measurement Development

Several steps were considered to ensure the questionnaire's quality. The measurements of constructs were developed based on previous studies. Concepts were clearly defined and the wordings were simple, avoiding the ones that might be perceived as threatening. Subsequently, the questionnaires were made available to 15 selected respondents for pretesting, 6 of the pretests were conducted in person, the remainder were conducted via telephone. The selected respondents for pretesting were chosen based on their similarity to those that will be the respondents. The selected respondents have different characteristics (department of the respondent, location of the company, sector of the company, etc.). Minor revisions were made after considering the feedback, then the final questionnaire was designed.

3.2. Data Collection

Data collection began in early May until the end of August 2022. Printed questionnaires were distributed to respondents in manufacturing companies located in the region "Fes-Meknes". For convenience purposes, an online version of questionnaires was designed via Goggle Docs, the online version was shared via LinkedIn with respondents from manufacturing companies located in the following regions: "Casablanca-Settat", "Tanger-Tétouan-Al Hoceïma", and "Rabat-Salé-Kénitra". These three regions comprise the major industrial parks in Morocco.

In total, 193 operable responses were collected. 61 of them were obtained through the printed questionnaire, and the remaining 132 responses were collected through the online version of the questionnaire. Table 1 shows information on respondents' characteristics.

3.3. Data Analysis Method

To examine the model and hypotheses, we employed the structural equation modelling (SEM) technique, we used the Partial least square (PLS), which is appropriate to test complex models as well as latet variables, PLS method is also practical for mediation analysis (Lowry and Gaskin, 2014). SmartPLS 3 was the used software.

Data analysis using PLS-SEM is a two-step approach. First, the assessment of measurement model, and second, the assessment of structural model (Lacroux, 2009). The measurement model or the outer model analyzes the relationship between each latent variable and its items. The structural model or the inner model analyzes the relationship among the various latent variables.

4. RESULTS

4.1. Measurement Model

4.1.1. Convergent validity

To assess the convergent validity of the measurement model, we first assessed factor loadings (Fornell and Larcker, 1981; Bagozzi and Yi, 1988; Henseler et al., 2009; Hair et al., 2014). Indicators with a lower value than 0,7 were eliminated when doing so increased composite reliability's and AVE's values as recommended (Hair et al., 2014; Latif et al., 2020). Six Items (EEP6, EEP7, EEP8, DC1, DC3, CP1) were removed from the analysis. In Table 2, all factor loadings that we kept exceed the minimum recommended value of 0.7 (Hair et al., 2014). All indicators are then fairly correlated to their latent variables.

To test the reliability of constructs, we used Cronbach's alpha and composite reliability. Cronbach's alpha for all latent variables exceeds the threshold of 0.7 (Bernardi, 1994). The composite reliability for all latent variables exceeds the recommended value of 0.7 (Lenny and Kridanto, 2019). All latent variables are then internally consistent (Netemeyer et al., 2003).

The final test conducted to assess the convergent validity of the measurement model is the Average Variance Extracted (AVE). AVE's value for each latent variable exceeds the recommended value of 0.5 (Fornell and Larcker, 1981). Then, all latent variables explain indicators to which they are related (Dos Santos and Cirillo, 2021).

Thus, based on the results presented in Table 2, the convergent validity of the measurement model is established.

Table 1: Description of sampling characteristics

Respondents' and companies' characteristics	Items	Number	Percentage
	Department		
Respondents' characteristics	Finance	68	35
	Production	42	22
	Technical	39	20
	Top management	34	18
	Others (eg., logistics, quality)	8	4
	Nationality		
Companies' characteristics	Moroccan Companies	104	54
	Multinational Corporations	89	46
	Business structure		
	Corporation	136	70
	Limited Liability Companies	32	17
	Sole proprietorship	25	13
	Industry		
	Textiles	42	22
	Food processing	32	17
	Automotive	29	15
	Chemicals and para-chemicals	27	14
	Energy	18	9
	Aircraft parts	13	7
	Leather goods	11	6
	Others (e.g., metal fabrication)	21	11
	Location		
	Fès-Meknès	60	31
	Tanger-Tétouan-Al Hoceïma	52	27
	Rabat-Salé-Kénitra	41	21
	Casablanca-Settat	40	21

Table 2: Results of measurement model-convergent validity

Constructs	Items	Loadings	Cronbach's Alpha	CR	AVE
Dynamic capabilities	DC2	0.802	0.922	0.942	0.764
	DC4	0.930			
	DC5	0.944			
	DC6	0.806			
	DC7	0.879			
Energy efficiency practices	EEP1	0.801	0.934	0.950	0.793
	EEP2	0.851			
	EEP3	0.936			
	EEP4	0.944			
	EEP5	0.912			
Coercive pressure	CP2	0.909	0.824	0.919	0.850
	CP3	0.935			
Mimetic pressure	MP1	0.903	0.896	0.935	0.829
	MP2	0.872			
	MP3	0.954			
Normative pressure	NP1	0.946	0.904	0.940	0.839
	NP2	0.836			
	NP3	0.961			

4.1.2. Discriminant validity

To assess the discriminant validity, we have conducted the following tests: Fornell and Larcker criterion and HTMT ratio (Henseler et al., 2015; Ab Hamid et al., 2017).

To meet the Fornell and Larcker criterion, the diagonal values corresponding to the square root of AVE need to be larger than all the inter-construct correlations. The results of the Fornell and Larcker criterion presented in Table 3 show that each latent variable explain better the variance of its own indicator more than the variance of all other latent variables.

Table 3: Fornell and Larcker criterion-discriminant validity

	DC	EEP	CP	MP	NP
Dynamic capabilities	**0.874**				
Energy efficiency practices	0.652	**0.891**			
Incentive pressure	0.319	0.265	**0.922**		
Mimetic pressure	0.749	0.516	0.357	**0.910**	
Normative pressure	0.652	0.520	0.362	0.590	**0.916**

Discriminant validity was also measured by HTMT ratio (Henseler et al., 2015). The HTMT ratio measures the similarity between latent variables. The results of the HTMT ratio presented in Table 4 show that all the values are below the threshold of 0.85 (Kline, 2011). Thus, discriminant validity is established.

4.2. Structural Model

4.2.1. Direct effect

With the measurement model assessed, we now assess the structural model. We start by R^2, Q^2. The R^2 value shows the fraction of variation in the dependent variables that could be explained by independent variables or predictor variables (Hair et al., 2011). The minimum acceptable level of R^2 is 0.10 (Falk and Miller, 1992). Table 5 shows that R^2 values for dynamic capabilities and energy efficiency practices are above the minimum acceptable value of 0.10. Institutional pressure explains 62.8 percent of the construct dynamic capabilities. Dynamic capabilities and institutional pressure together explain 44.2% of the construct energy efficiency practices.

Q^2 establishes the predictive relevance of the dependent variables. Q^2 values should be above zero to indicate that the model has predictive relevance (Janadari et al., 2016). The results in Table 5 show that Q^2 values for both dynamic capabilities and energy efficiency practices are above zero, hence the predictive relevance of the model.

Furthermore, the model fit was assessed using the standardized root mean squared residual also known as SRMR. Table 6 shows that The SRMR value equals to 0.064, which is within the acceptable range for the SRMR index (between 0 and 0.08) (Hu and Bentler, 1999), indicating acceptable model fit.

Table 4: HTMT ratio - Discriminant validity

	DC	EEP	CP	MP	NP
Dynamic capabilities					
Energy efficiency practices	0.704				
Incentive pressure	0.367	0.300			
Mimetic pressure	0.815	0.562	0.415		
Normative pressure	0.693	0.559	0.437	0.642	

Table 5: R square and Q square of the model

	R square	Q square
Dynamic capabilities	0.628	0.461
Energy efficiency practices	0.442	0.340

Table 6: The model fit using SRMR

	Saturated model	Estimated model
SRMR	0.064	0.064

Subsequently, hypotheses were tested to ascertain the relationship between the latent variables. From Table 7, dynamic capabilities positively influence energy efficiency practices (β = 0.527, t = 5.693, P < 0.001), Hypothesis 1 is then supported. Hypothesis 2a, which predicts that coercive pressure is positively related energy efficiency practices, is not supported (β = 0.034, t = 0.633, P > 0.05). Hypothesis 2b, which states that normative pressure is positively related energy efficiency practices, is supported (β = 0.153, t = 2.175, P < 0.05). Hypothesis 2c, which posits that mimetic pressure is positively related energy efficiency practices is supported as well (β = 0.234, t = 3.541, P < 0.001). Hypothesis 3a, which posits that coercive pressure positively influences dynamic capabilities, is not supported (β = 0.004, t = 0.092, P > 0.05). Hypothesis 3b states that normative pressure has a positive effect of dynamic capabilities, is supported (β = 0.321, t = 5.351, P < 0.001). Mimetic pressure is positively related to dynamic capabilities, hypothesis 3c is then supported (β = 0.558, t = 10.303, P < 0.001).

4.2.2. Indirect mediating effect

Mediation analysis was performed to assess the mediating role of dynamic capabilities on the relationship between institutional pressure and energy efficiency practices. The results on Table 8 reveal that:

The total effect of coercive pressure on energy efficiency practices is insignificant (β = 0.036, t = 0.571, P > 0.05). With the inclusion of dynamic capabilities as a mediating variable, the direct effect of coercive pressure on energy efficiency practices is still insignificant (β = 0.034, t = 0.618, P > 0.05). The indirect effect of coercive pressure on energy efficiency practices through dynamic capabilities is also insignificant (β = 0.002, t = 0.090, P = 0.929). This shows that dynamic capabilities do not mediate the relationship between coercive pressure and energy efficiency practices. Thus, Hypothesis 4a is not supported.

The total effect of normative pressure on energy efficiency practices is significant (β = 0.322, t = 3.970, P < 0.001). With the inclusion of dynamic capabilities, the direct effect of normative pressure on energy efficiency practices is also significant (β = 0.153, t = 1.996, P < 0.05). The indirect effect of normative pressure on energy efficiency practices through dynamic capabilities is significant (β = 0.169, t = 4.171, P < 0.001). This shows that the relationship between normative pressure on energy efficiency practices is partially mediated by dynamic capabilities. Thus, hypothesis 4b is supported.

The total effect of mimetic pressure on energy efficiency practices is significant (β = 0.313, t = 4.091, P < 0.001). With the inclusion

Table 7: Path coefficient of the research hypotheses

Hypotheses		β	STDEV	T Values	P Values	2.5%	97.5%	Decision
H1	DC > EEP	0.527	0.093	5.693	0.000	0.332	0.691	Supported
H2a	CP > EEP	0.034	0.054	0.633	0.527	−0.068	0.134	Not supported
H2b	NP > EEP	0.153	0.070	2.175	0.030	0.026	0.288	Supported
H2c	MP > EEP	0.234	0.066	3.541	0.000	0.101	0.362	Supported
H3a	CP > DC	0.004	0.046	0.092	0.927	-0.088	0.090	Not supported
H3b	NP > DC	0.321	0.060	5.351	0.000	0.198	0.434	Supported
H3c	MP > DC	0.558	0.054	10.303	0.000	0.444	0.659	Supported

Table 8: Mediation analysis

Total effects		Direct effects		Indirect effects						
β	P-value	β	P-value	Hypothesis	β	SD	t-value	P-value	BI [2,5%; 97,5%]	
0.036	0.562	0.034	0.527	H4a: CP > DC > EEP	0.002	0.025	0.090	0.929	−0.052	0.044
0.322	0.000	0.153	0.030	H4b: NP > DC > EEP	0.169	0.041	4.171	0.000	0.097	0.258
0.313	0.000	0.234	0.001	H4c: MP > DC > EEP	0.294	0.065	4.499	0.000	0.177	0.422

of dynamic capabilities, the direct effect of mimetic pressure on energy efficiency practices is significant as well ($\beta = 0.234$, $t = 3.336$, $P < 0.01$). The indirect effect of mimetic pressure on energy efficiency practices through dynamic capabilities is significant ($\beta = 0.294$, $t = 4.499$, $P < 0.001$). This shows that the relationship between mimetic pressure on energy efficiency practices is partially mediated by dynamic capabilities. Thus, Hypothesis 4c is supported.

5. DISCUSSION

5.1. Discussion on Expected Results

The aim of this research is to study the antecedents of companies' energy efficiency practices. In summary, the results show the following:

First, dynamic capabilities directly influence energy efficiency practices. Second, normative, and mimetic pressure directly influence energy efficiency practice. Third, normative, and mimetic pressure are positively related to dynamic capabilities. Fourth, normative, and mimetic pressure influence energy efficiency practices through the mediation of dynamic capabilities. These findings suggest that by possessing dynamic capabilities, companies are more likely to realign their competence and resource base to detect and implement external opportunities, namely energy efficiency practices. Also, companies are likely to consider energy efficiency practices that are recommended by industry institutions and practices that their rivals have benefited from. In addition, dynamic capabilities enable companies to meet industry institutions' recommended practices and to implement practices that their rivals have benefited from. Furthermore, companies are more likely to consider energy efficiency practices that are recommended by industry institutions and the best energy efficiency practices from their peers.

5.2. Discussion on Unexpected Results

However, hypotheses H2a, H3a and H4a are not supported.

First, coercive pressure does not directly influence energy efficiency practice. This finding is not consistent with our previous expectation and is inconsistent with the previous literature regarding the influence of coercive pressure on energy efficiency practices (Zhu and Chertow, 2017; Garrone et al., 2018; Zhang et al., 2018). One possible explanation is that policies could setting high standards, that are hard for companies to follow.

Second, coercive pressure is not positively related to companies' dynamic capabilities. This result is inconsistent with our previous expectation and is inconsistent with the previous literature which states that dynamic capabilities help companies to rapidly realign their resources to meet government's requirements (Zhu et al., 2013). A plausible explanation is that even if companies have the internal capabilities to meet the government's requirements, they could choose to resist if they consider the government to be untrustworthy.

Third, coercive pressure does not influence energy efficiency practices through the mediation of dynamic capabilities. This result is inconsistent with our previous expectation and with the existing literature regarding the relationship between external pressure (in this case, coercive pressure) and environmental practices through the mediation of internal capabilities (in this case, dynamic capabilities) (Zhu et al., 2013; Charan and Murty, 2018). A plausible explanation is that even with dynamic capabilities, companies, and especially the big ones could resist to pressure from the government if they consider the mandatory energy efficiency practices as a cost they have to endure to protect the environment rather than an opportunity to reduce their energy bills, which could explain the delay in the application of certain provisions of the Moroccan energy efficiency law of 2011.

6. CONCLUSION AND POLICY IMPLICATIONS

We built and empirically tested a theorical model drawing on institutional theory. Data were collected via printed and online questionnaires made available to manufacturing companies located 4 regions of Morocco. Based on the results of this study, some policy implications are suggested, to help the Moroccan government to promote energy efficiency practices.

First, dynamic capabilities are crucial to promote energy efficiency practices. Therefore, when establishing energy efficiency targets, the government should consider companies' capability to incorporate energy efficiency practices. In this regard, the Moroccan government could compensate a lack of dynamic capabilities by identifying the best energy efficiency technologies, and by providing technical support for companies. Thus, there will be a collective commitment towards energy efficiency targets.

Second, normative, and mimetic pressure influence energy efficiency practices. Thus, it is important for the Moroccan government to widely spread the best energy efficiency practices recommended by industry institutions and even to encourage industry institutions via regulations to set energy efficiency standards in the industry. In addition, to elicit companies to mimic energy efficiency practices from their peers, the Moroccan government could propagate through medias companies that have benefited from implementing energy efficiency practices, and even consider an award system of best companies in each industry in terms of adopting energy efficiency practices.

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