







# “Role of proactive behavior in entrepreneurial alertness: A mediating role of dynamic capabilities”

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# ROLE OF PROACTIVE BEHAVIOR IN ENTREPRENEURIAL ALERTNESS: A MEDIATING ROLE OF DYNAMIC CAPABILITIES

## Abstract

The role of entrepreneurial alertness has been increasing to cope with the current fiercely competitive market. Entrepreneurial alertness enables companies to benefit from unseized opportunities and gain a competitive advantage. Therefore, the study explores the role of proactive behavior in enhancing the entrepreneurial alertness of organizations through the mediating role of dynamic capabilities. The study focuses on the Iraqi telecommunication market because of the intense competition between three major telecom companies. Data were collected through a 5-point Likert-scale questionnaire distributed among employees of mobile telecommunications companies in Iraq. The sample aimed to cover different levels in the business hierarchy with a particular focus on the leading positions. Therefore, it included 299 members of boards of directors, branch managers, department heads, and chief supervisors (middle managers). Structural equation modeling (SEM) was used to analyze the responses. Results revealed the positive effect of adopting proactive behavior (e.g., problem prevention, innovation, and holding responsibilities) on entrepreneurial alertness (e.g., scanning, searching for, and evaluating opportunities). The results also approved the mediating role of dynamic capabilities in enhancing the relationship between proactive behavior and entrepreneurial alertness. Therefore, Iraqi governmental telecommunication enterprises are recommended to benefit from the dynamic capabilities of employees (e.g., sensing, learning, integrating, and coordinating capabilities) to maximize the positive influence of proactive behavior on entrepreneurial alertness and, accordingly, improve the prediction of production risks and threats.

## Keywords

proactive behavior, entrepreneurial alertness, dynamic capabilities, telecommunications sector, structural equation modeling

## JEL Classification

D23, D24

## INTRODUCTION

In a recent systematic review on entrepreneurial alertness (EnA), Chavoushi et al. (2021) underpinned the definitional efforts that aimed to outline the concept of EnA since Kirzner coined the term in 1979. They concluded that many facets could be included if intrinsic alertness is added to the traditional description, denoting appreciating unseized opportunities without researching. The alertness of entrepreneurs gives them a more remarkable ability to realize potential opportunities for profit than others. Recently, the concept has been further specified as an entrepreneur's strong perception of seizing opportunities. Particular mental and psychological patterns may cause entrepreneurs to monitor information more carefully, process information, and judge it based on this perception. Research on entrepreneurial awakening depends mainly on its relationship to distinguishing entrepreneurial opportunity. Neneh (2019) considered EnA the primary determinant for achieving entrepreneurial goals as it indicates how individuals identify unseized opportunities. The degree of EnA is a constructor in creating new projects at the core of entrepreneurial behavior.

The relationship between EnA and proactive behavior is mediated by dynamic capabilities underpinned by efforts of proactive behaviors at work (Wilden et al., 2016). Dynamic capabilities (DyC) encode the organizational ability to solve problems systematically, recognize plausible prospects and threats, make market-oriented timely decisions, and change its resource base (Barreto, 2010). They are described as the capabilities that enable the organization to renew its capabilities continuously and thus achieve a competitive advantage in the long term (Protogerou et al., 2012). Therefore, DyC is a business asset for organizations aiming at building, deploying, and protecting intangible assets that support high performance in the long term. These capabilities can expand, protect, develop, and preserve the organization's unique assets (Armstrong, 2011).

Despite the increasing literature on EnA and proactive behavior, insights about how EnA benefits from proactive behaviors were minimal (Rezvani et al., 2018). Therefore, the mediation effect between these variables needs further investigation in developing markets.

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## 1. LITERATURE REVIEW AND HYPOTHESES

There are various types of behavior at a workplace that can be labeled proactive. Proactive behavior (PrB) is a proactive, self-operating behavior directed to improve the organization by eschewing problems, boosting innovations, taking responsibility, and zooming in on issues and concerns that warrant attention. These constructs are the main PrB variables (Parker & Collins, 2010).

Similar to the various types and definitions of PrB, the definitions of DyC varied across studies. Wilden et al. (2013, 2019) defined DyC as the capabilities of integrating processes that enable organizations to maintain superior performance over time. Dess et al. (2014) showed that the organization could build and protect a competitive advantage based on knowledge, assets, capabilities, complementary resources, and technologies that include the ability to sense new opportunities and take advantage of them to generate new knowledge and reconfigure existing assets and capabilities. Aminu and Mahmood (2015) indicated that they represent high-level activities, which could enable the management of organizations to sense opportunities, invest in them, and overcome threats. Then, the organization's assets are combined and reconfigured to meet customer needs, maintain and develop results, and enhance long-term performance.

The behaviors that solicit implementing new technologies, techniques and/or ideas for the organization's benefit define individual innovation (Beck

et al., 2014). It indicates the proactive actions of an individual to initiate a change in a work order or work role. Specific examples of PrB are problem-solving that is triggered automatically, taking initiatives to make changes, proposing ideas to improve the organization's current position, voice behavior, seeking feedback, and solving problems (Shin & Kim, 2015). Proactive work behaviors aim to improve everyday work conditions or create new opportunities in the work context.

Shipton et al. (2016) defined DyC as the mechanisms that boost learnability and innovation at the corporate level. It was described (Rezazadeh et al., 2016) as the organization's capabilities to integrate, learn, and reshape internal and external capabilities and resources. Rothaermel (2019) explained that an organization could create, deploy, modify, reconfigure, develop, or utilize its resources to pursue a competitive advantage. Pisano (2017) considered DyC the ability of the organization to reconfigure and expand its capabilities. Strauss et al. (2017) considered them as repeatable organizational patterns of work that enable the organization to develop its resource base and keep it consistent with the changing requirements imposed on it in the course of its work or when initiating these self-changes.

Not only do DyC assist in the most dynamic environments and new projects, but also in the least dynamic environments and large organizations. Bingham et al. (2014) explained that DyC enable organizations to gain profitable entry into new products to markets on a geographical basis, revitalizing resource portfolios, directing underper-

forming divisions, restructuring the relationship with the industry, fostering innovation as well as promoting economically significant change. Zhou et al. (2019) also view it as an essential role in improving the organization's performance to develop new products to secure its competitive advantages. Moreover, it emphasizes gathering capabilities and entrenching them in the organization and is directly related to its financial performance. In contrast, Albort-Morant et al. (2018) found that it helps maintain the organization's competency development, thus creating long-term competitive success. Moreover, DyC may impart the flexibility needed to apply during uncertainties as well as procedural and managerial innovations (Singh et al., 2013).

Torres et al. (2018) believe that its importance is in the light of its impact on the results of the organization through its effect on the regular capabilities of the organization as well as the focus on the continuous renewal of regular capabilities by applying DyC to outperform their competitors. Organizations must use them faster, more interactive, or more surprising than competitors for the creation and coordination of resources that have that advantage. Wilden et al. (2019) indicated that it enables organizations to harmonize with their market environment.

Pavlou and El Sawy (2011) modeled DyC through sensing, learning, integration, and coordination capacities. First, a stronger sense of the organization will enhance technology-oriented organizational innovation. It also implies identifying the structural evolution of industries and markets and the potential gains and losses. Thus, after seizing some opportunities, the sensing capacity can not only help organizations understand the technologies that need to be explored but also provides the basis for them to know which sectors to target (Agarwal et al., 2003). Second, learning is the ability to renew current operational capabilities with new knowledge. The four basic routines for learning capabilities are acquiring knowledge, assimilating knowledge in detail, transferring knowledge by solving innovative problems, brainstorming, and new creative thinking. Finally, it is worth mentioning utilizing knowledge by pursuing new initiatives, seizing opportunities with learning, and renewing operational capabilities. Learning improves creativity and facilitates reformulation (Pavlou & El Sawy, 2011).

Rezazadeh et al. (2016) found that creating competitive advantages is performed through dynamic, multi-level learning processes based on experimentation and iteration. Third, the ability of integration is represented in the procedures and mechanisms that allow organizations to predict the requirements of customers. Most importantly, it involves tools that enable the organization's members to interpret current market information and create insights for the future market. Fourth, the integration ability can translate into an innovative market vision that aligns with future market expectations (Zhou et al., 2019). Finally, Rezazadeh et al. (2016) believe that the organization can evaluate its resources and the possibility of integrating them to create and develop new capabilities.

Entrepreneurial alertness is a relatively more complicated concept than PrB and DyC because of its cognitive dimensions. The dimensions of EnA encompass alert scanning and searching processes, alert association and connection, evaluation and judgment. The three dimensions of mindfulness are not to be clumped together, given the heterogeneity they demonstrate (Tang et al., 2012). The first dimension undertakes information entrepreneurs use to acquire knowledge. Second, alert association and connection denote contemplating various options and making connections to create a panoramic view of the looming opportunity. Finally, "evaluation and judgment" process commences with assessing the situation properly and being equipped with adequate knowledge, experience, network, motivation, and skills to exploit it (Delač et al., 2018).

The importance of pioneering alertness is evident in the ability of individuals to be uniquely prepared as well as willingness to discover opportunities. Preparedness is considered a critical issue in identifying opportunities because it helps people to develop new solutions for the market and customers' needs in light of the current information and the perception of new products and services that are not currently available (Uy et al., 2015).

Managing the recurring and normal nature of the development of opportunities during the early stages of the project life cycle requires monitoring, searching, and evaluating external conditions on

an ongoing basis to review, update, and select the knowledge structures necessary to create opportunities, and this allows it to fill the gaps in knowledge resources (Patel, 2019).

Since DyC represent capabilities that help the organization to expand and modify its existing operational capabilities and reinvest those capabilities to suit environmental changes, the organization's internal processes aim to develop and renew its resources and skills to adapt to rapidly changing environments (Nieves & Haller, 2014, p. 224).

DyC lie in the primary management of the company (Helfat & Martin, 2015; Teece, 2007). Administrative justice is what affects the DyC (Ambrosini et al., 2009). Therefore, similar companies can embrace different DyC due to differences in their managers' perceptions of the environment.

DyC are a complex group of capabilities associated with sensing, learning, integration, coordination, and reconfiguration (Teece, 2007). Aminu (2016) indicated that the DyC of small companies positively affect the company's entrepreneurial orientation levels. Implicitly, a company must be entrepreneurial-oriented to build dynamic capabilities which maintain superior performance. Abbas et al. (2019) revealed that DyC mediate the relationship between entrepreneurial companies and sustainable performance.

Therefore, this study aims to examine the positive impact of proactive behavior in enhancing the entrepreneurial alertness of companies through dynamic capabilities. Accordingly, the following hypotheses can be formulated:

- H1: Proactive behavior positively affects entrepreneurial alertness.*
- H2: Proactive behavior positively affects dynamic capabilities.*
- H3: Dynamic capabilities positively affect entrepreneurial alertness.*
- H4: Dynamic capabilities mediate the relationship between proactive behavior and entrepreneurial alertness.*

## 2. METHODOLOGY

The data of the current study were collected from several branches of Iraqi mobile telecommunications companies spread within the capital region of Baghdad and the Middle Euphrates. The questionnaire was used as the main tool in data collection, and it included three items. First, proactive behavior, EnA, and dynamic capabilities were measured according to a 5-point Likert scale. The study sample was represented by members of boards of directors, branch managers, department heads, and other middle managers of companies that obtained exclusive agencies from the selected telecommunications companies. The sample size was 229 respondents.

Upon obtaining the approval of the company's management for the research community, specifically from the human resources managers in the companies, the nature and purpose of the questionnaire were explained to the respondents. The volunteering participants were contacted to provide transparent responses to each question. This measure reduces the potential impact of employee hesitation and bias toward social desirability (Podsakoff et al., 2003; Lindell & Whitney, 2001). First, the validated questionnaire was distributed to the participants. The HR managers affiliated with each participant's workplace officially distributed the same survey. Overall, 229 valid responses were collated out of 258 (males = 133, females = 96). The response rate was 88%, acceptable for paper questionnaires in the Asian workplace. The ages of the respondents ranged from 35 to 44 years old; hundred and twenty-eight participants obtained a bachelor's degree, 57 obtained a diploma (two-year study after high school), 32 participants completed a master's degree in various specializations, while 12 participants completed a doctoral degree with specializations that serve the field of companies in which they work. Table 1 presents the demographic profile of the participants.

The study explored three variables, as Figure 1 shows. All primary scales were based on those found in the literature.

As for proactive behavior, a structure consisting of four main dimensions has been adopted: Taking charge, voice, Individual innovation, and problem prevention. In line with the standards, this study used 13 items (Parker & Collins, 2010).



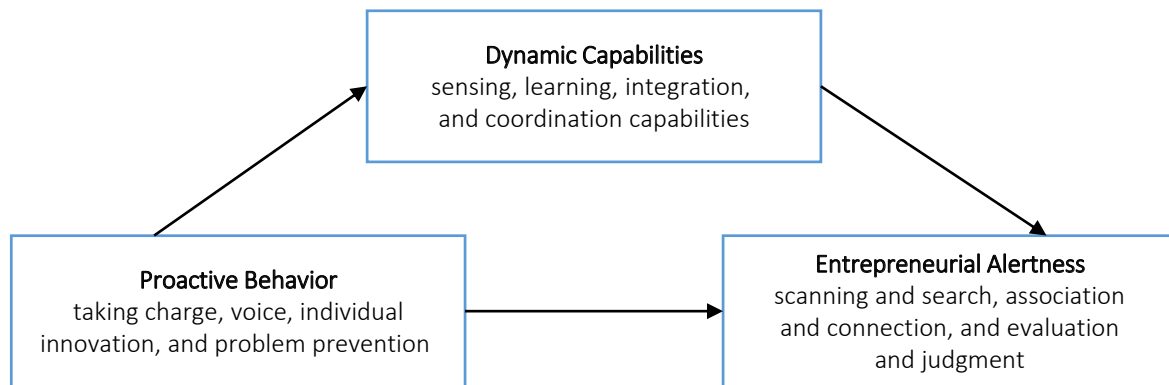


Figure 1. Research model

Table 1. Demographic profile of respondents

Characteristics	Frequencies	Percentage
<b>Gender</b>		
Male	133	58%
Female	96	42%
<b>Age</b>		
< 24	53	23%
25-34	64	28%
35-44	76	33%
45-54	36	16%
<b>Education</b>		
BA	128	56%
Diploma	57	25%
MA	32	14%
PhD	12	5%
<b>Department</b>		
Administration	90	39%
Human Resources	46	20%
Accounts	21	9%
Service Providers	39	17%
Information Technology	33	15%

The evaluation of DyC followed Pavlou and El Sawy (2011), as it was evaluated according to four dimensions represented by sensing, learning, integration, and coordination capabilities in 19 items.

Entrepreneurial alertness was measured using a scale of Tang et al. (2012). It was designed according to three dimensions: scanning and search, association and connection, and evaluation and judgment (13 items).

### 3. RESULTS

Following the previously described methodologic analysis (Bannay et al., 2020), the Confirmatory Factor Analysis (CFA) analysis results were meas-

ured (Table 2). Parameter estimates are feasible and acceptable if their values exceed 40%. As for the standard errors, the smaller they are, the more it is possible to rely on the statistical parameters and vice versa. The statistical significance of the parameter estimates is determined based on the significance of the critical ratio (CR), which represents the statistical scale for the significance of the parameter estimates. Parameter estimates are essential if they exceed the critical ratio (1.96) at the level of significance and if it exceeds 2.56 at the level of significance. The value above 0.40 (loading) indicates statistically accepted, except for items 1 from the voice dimension, 3 from the coordination capabilities dimension, 5 from monitoring and research, 4 from assessment and judgment that has been removed from the measurement.

Indicators and base quality of conformity SEM have exceeded the acceptable statistical limits.

**Table 2.** Confirmatory factor analysis and Cronbach's alpha

Variables (Dimensions)	Cronbach's Alpha	Loading	Quality Indicators
Proactive Behavior	.888		
Taking Charge	.791	.713	CIMN/DF = 2.370
		.775	
		.764	
Voice	.736	.661	GFI = .879
		.714	
		.719	
Individual Innovation	.759	.654	CFI = .925
		.859	
		.664	
Prevent Problems	.751	.724	TLI = .922
		.642	
		.642	
Dynamic Capabilities	.920		IFI = .944
Sensing Capabilities	.765	.696	RMSEA = .078
		.555	
		.729	
Learning Capabilities	.792	.685	CIMN/DF = 2.463
		.509	
		.552	
Integration Capabilities	.819	.661	GFI = .873
		.706	
		.649	
Coordination Capabilities	.785	.729	CFI = .914
		.716	
		.609	
Entrepreneurial alertness	.858	.611	TLI = .891
		.729	
		.573	
Scanning and Search	.715	.700	IFI = .915
		.727	
		.644	
Association and Connection	.712	.736	RMSEA = .080
		.699	
		.681	
Evaluation and Judgment	.751	.694	CIMN/DF = 3.617
		.602	
		.536	
Evaluation and Judgment	.751	.650	GFI = .907
		.747	
		.696	
Evaluation and Judgment	.751	.675	CFI = .915
Evaluation and Judgment	.751	.675	TLI = .877
Evaluation and Judgment	.751	.675	IFI = .916
Evaluation and Judgment	.751	.675	RMSEA = .078

The descriptive statistics and correlation analysis are presented in Table 3. The mean and standard deviation values for PrB, DyC, and EnA are M = 3.9305, SD = .59256; M = 3.8596, SD = .58148; and M = 3.7421, SD = .57642, respectively. The Pearson correlation coefficient shows a positive and significant relationship between PrB and EnA ( $r = .918, p < 0.1$ ), and a positive and significant relationship between PrB and DyC ( $r = .649, p < 0.1$ ). It also indicates a positive relationship between DyC and EnA ( $r = .783, p < 0.1$ ).

**Table 3.** Mean, standard deviations, and correlations between main variables

Variables	M	SD	1	2	3
Proactive Behavior	3.9305	.59256	1	.649**	.819**
Dynamic Capabilities	3.8596	.58148	.819**	1	.783**
Entrepreneurial Alertness	3.7421	.57642	.783**	.649**	1

Note: N = 229, \*\* p < 0.01.

Table 4 illustrates the direct effect, CR, and P-values. To show the direct and indirect effect, the SEM was used using Amos software to examine whether DyC mediate the impact of proactive behavior on EnA. The mediated path (PrB → DyC → EnA) is significant ( $\beta = .626, p < .003$ ). By including the direct paths (PrB → DyC and PrB → EA and DyC → EnA) in the model, indication of partial mediation to DyC is noted ( $\beta = 0.819, t = 21.536, p < 0.001$ ;  $\beta = .649, t = 12.86, p < .001$ ;  $\beta = .783, t = 19.005, p < .001$ ), Figure 2 shows the structural model.

The results of hypothesis testing in Table 4 indicate that there is a direct positive effect of the Proactive Behavior (PrB) on the entrepreneurial alertness (EnA), and also the proactive behavior affects the dynamic capabilities (DyC), Provides support for hypothesis (H1, H2), The results also indicate the effect of the mediating variable (DyC) positively on the(EnA), so it provides support for the hypothesis (H3), Since DyC mediated (partial mediation) the relationship between PrB and EnA, H4 is also supported.

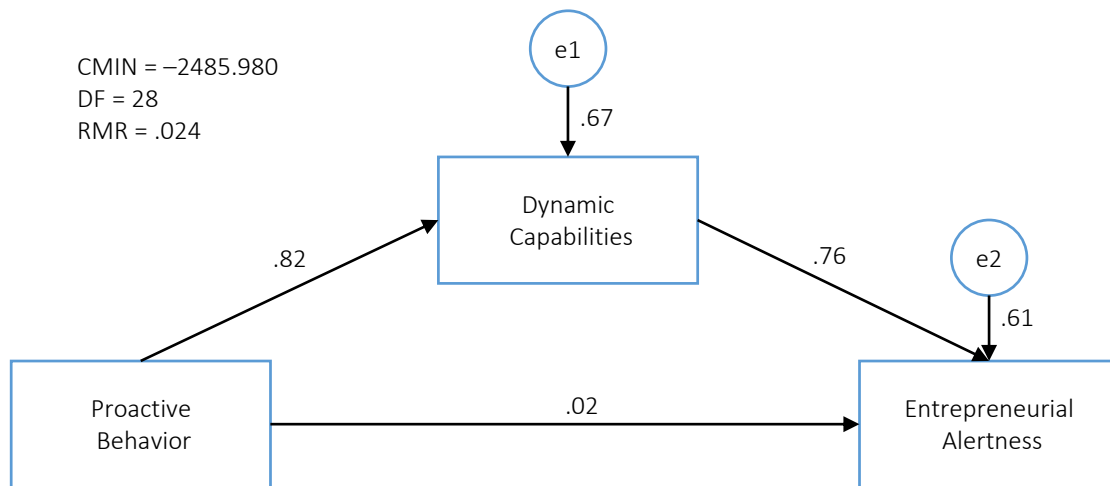


Figure 2. Structural model

Table 4. Path coefficients, SE, CR, and P-values

Effect	Hypotheses	B	SE	CR	P
Direct effect	Proactive Behavior→ Dynamic Capabilities	.819	.037	21.536	***
	Proactive Behavior→ Entrepreneurial Alertness	.649	.049	12.864	***
	Dynamic Capabilities→ Entrepreneurial Alertness	.783	.041	19.005	***
Indirect effect	Proactive Behavior→ Dynamic Capabilities→ Entrepreneurial Alertness	.626	Lower Bounds	Upper Bounds	.003
			.526	.736	

Note: \*\*\* p < 0.001.

## 4. DISCUSSION

Adopting proactive behaviors enhances companies' enjoyment of entrepreneurial alertness. Proactive behavior can achieve benefits from the investment of available or future opportunities faster than competitors. It improves the attention that makes the organization entrepreneurial in its field of business compared to other companies by taking charge, voice, individual innovation, and problem prevention (Parker & Collins, 2010). Proactive behavior is taking the initiative to improve existing conditions or create new ones. It involves challenging the status quo rather than passively adapting to the current circumstances. It includes an active approach toward work and aims to improve the methods and procedures of the work presented, in addition to developing personal requirements to meet the work requirements in the future. It includes behaviors such as personal initiative and responsibility and is closely related to flexible role orientation (Neneh, 2019).

Organizations may gain a competitive advantage when employees engage in PrBs. Likewise, PrBs are widely seen as a significant component of individ-

ual career success, as this behavior is particularly crucial for newcomers who are being met at their jobs (Yu & Davis, 2016). Employee PrB leads to favorable individual outcomes such as a higher level of innovation, leadership effectiveness, task performance, and tremendous success in the career field, all of which positively contribute to organizational performance and development (Batistič et al., 2016). This study postulated that PrB positively affects EnA and DyC while DyC positively affect EnA. This proposition aligns with the mainstream in the business literature (Febriana et al., 2019; Li et al., 2019; Ling et al., 2021), which emphasizes that PrB at work enhances overall performance.

Rezvani et al. (2018) referred to it as the ability to identify opportunities as they exist. On the other hand, this ability may depend (as pattern recognition models indicate) on having appropriate cognitive models or structures that help specific people perceive the interconnectedness of different events and trends.

DyC can be described as organizational capabilities to reconfigure resources and routine procedures by the decision-maker, or the organization



can integrate internal and external competencies and build and reorganize them to face rapidly changing environments (Kim & Tsai, 2012). Barreto (2010) addressed weaknesses and enhanced internal strengths to achieve continuous improvement in its effectiveness and achieve competitive advantage by developing its administrative and organizational processes and spreading DyC (Helfat et al., 2007). This study proposed that DyC mediate the relationship between PrB and EnA. Relevantly, Aminu and Mahmood (2015) explained that DyC correspond to the organization's ability to combine the knowledge of different individuals with new operational capabilities. Finally, coordination capacity is the ability to coordinate and deploy tasks, resources, and activities into new functional capabilities. Tasks assigned to good resources and qualified workers remain the basic routine of coordination, identifying complementarities and duty synergies, and organizing group activities.

Rezvani et al. (2018) determined EnA foundations in individual behavior, training, experience, and social networks. Personal characteristics, prior knowledge, entrepreneurial experience, entrepre-

neurial practice, and entrepreneurial goal can also be determinants between the absorptive capacity of knowledge and organizational learning with the following: "mental models of individuals in teams in search of opportunities" at the individual level, "dialogue between teamwork, team formation and a supportive environment" at the level between individuals and between groups, "actions leadership and commitment to resources" at the organizational level between managers, entrepreneurs, and CEOs of the upper levels. A distinct set of cognitive and cognitive processing skills guides the recognition of opportunities. Mindfulness is a process that includes how individuals communicate with information that appears to be different and assesses the extent of promising opportunities (Garrett & Covin, 2007; Gorgijevski et al., 2019).

Hu et al. (2018) indicated that the alertness of individuals enables them to identify new solutions to the needs of the market and customers in the light of current information, as well as to envision non-existing proposed products and services. Thus, EnA is a vital component of entrepreneurship and plays an essential role in identifying opportunities.

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## CONCLUSION

This study examined the relationship between three constructs (i.e, PrB, EnA and DyC) in a sample of Iraqi telecommunications companies. It hypothesized a positive effect of PrB and DyC on EnA and a positive impact of proactive behavior on dynamic capabilities. The effect of PrB on DyC is proved, and the effect of DyC on EnA was also evident. More importantly, the results confirmed the mediating role of the DyC that govern PrB and EnA.

The results of the current study indicate that when employees in the higher levels of the business hierarchy adopt proactive behavior, the alertness of entrepreneurs increases. Therefore, when branch directors, for instance, act to prevent problems, foster individual innovation, and take initiatives, the ability of the organization to scan, search, evaluate and judge possible chances in the market develops. In addition, paying attention to sensing, learning, integration, and coordination capabilities has a positive mediating effect on the relationship between adopting PrB and enhancing EnA. Therefore, companies should also consider fostering DyC to ultimately improve EnA. The triangle of PrB, DyC, and EnA is essential to any business to make future predictions about possible opportunities, risks, and threats.

## AUTHOR CONTRIBUTIONS

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Data curation: Dheyaa Falih Bannay.

Formal analysis: Ahmed Abdullah Amanah.

Funding acquisition: Sahar Abbas Hussein.

Investigation: Ahmed Abdullah Amanah.

Methodology: Dheyaa Falih Bannay.

Resources: Ahmed Abdullah Amanah, Sahar Abbas Hussein, Dheyaa Falih Bannay.

Software: Ahmed Abdullah Amanah.

Validation: Ahmed Abdullah Amanah.

Visualization: Sahar Abbas Hussein, Dheyaa Falih Bannay.

Writing – original draft: Sahar Abbas Hussein.

Writing – review & editing: Sahar Abbas Hussein.

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