



## Research Article

# The Effect of Environmental Uncertainty in Organizational Creativity as Moderated by Organizational Agility: The Case of Hotel Industry in NCR

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### ABSTRACT

The hotel industry was at significant risk because of the uncertain conditions brought on by the pandemic. The uncertain condition prompted the author to explore the effect of environmental uncertainties on hotels' organizational creativity and even enhanced the moderating effect of organizational agility. Moreover, it tried to analyze the combined effect of uncertainty on organizational creativity, and if moderated by organizational agility, because environmental uncertainty associated with infectious diseases contains valuable information for forecasting the future. Through purposive sampling, respondents from selected five-star hotels in NCR, wherein some hotels were unable to participate due to conditions brought on by the pandemic. These hotels share commonalities such as level of standard practices, prime location, price ranges, room features, luxurious image, number of employees, and many others. A letter, together with the adopted survey questionnaire, was provided to gather data. The researcher tested the data through multiple and simple linear regression to assess the study's hypotheses. Findings revealed that some environmental uncertainty could be positive on organizational creativity. Consequently, organizational agility does not significantly moderate the effect between environmental uncertainty and organizational creativity. Such results reveal that uncertain conditions can be a key to a more creative way in an organization if they arise. Moreover, as results show the need for technological advancement, hotels are recommended to obtain and apply some technological platforms to help achieve satisfactory hotel guest experiences.

### INTRODUCTION

In today's fast-changing environment, businesses such as hotels must be adaptive, inventive, and quick to respond, where guest expectations and behavior change rapidly. Being agile entails being able to detect and adapt to changes rapidly. This allows organizations to keep ahead of the competition and deal with unpredictability. Many studies have proven that agility promotes innovation, success, and other favorable results for businesses. The purpose of this study is to look at how agility may assist businesses like hotels in managing uncertainty while also increasing creativity.

refreshments, meals, and comparable goods. The hotel sector, which had to work constantly to meet the ever-changing desires and demands of the population, had become an increasingly dynamic division of the economy. Today, all types of hotel establishments vary from inexpensive guesthouses to premium five-star hotels in the industry. The hotels became vital economically through the jobs they created. World Travel & Tourism Council (2019), revealed that the Philippines was among the countries with the highest direct travel and tourism gain over the past years. Wherein, NCR region's density of hotel businesses is higher in comparison with other areas in the Philip-

Hotels aim to offer services like accommodation,





pines. Among the regions, the National Capital Region (NCR) had the foremost range of establishments in accommodation and food & beverage (PSA, 2019); most of the five-star hotels are within the region of NCR (DOT, 2020). Due to the uncertain conditions (COVID-19 pandemic, unstable market conditions, environmental factors, etc.), the country, especially NCR, has been affected and greatly transformed many things in the hotel industry for it to adapt to the situation. The implementation of alerting levels and limitations, such as a temporary ban on staycations during the spikes of COVID-19, confuses and jeopardizes hotel companies' (e.g., 5-star hotels) stability (Tabalong, 2021). Such, five-star categories of hotels are well exposed to multiplied environmental uncertainty, emphasize strategic management and creativity within the workplace, and provide relevant specific display regulations (Altememi, Hassouneh, & Alkshali, 2015).

Within the twenty-first century of the hotel industry, support for employee's creativity was one of the main challenges for an organization's human resource (Chang & Teng, 2017). Studies concerning the hotel industry were quite insufficient as well in terms of understanding creativity in an organization (Darvishmotevali et al., 2020). Despite the idea that management could use enhanced creativity in developing a favorable climate for the generation of new ideas in organizations (Obiora & Okpu, 2015). There few had been done to examine the conditions and aspects which may slow the process of organizational creativity (Darvishmotevali et al., 2020). Creativity was an ability composed of multiple resources recruited differentially across a range of domains and tasks (Kau-

fman & Sternberg, 2019); organizational creativity was the fundamental power of human civilization progress and social development (Qiuling et al., 2020). As stated by Byttebie and Vullings (2015) organizational creativity was extensively identified as a competitive edge leading to higher organizational performance and more effective customer problem-solving (as cited in Darvishmotevali et al., 2020). Thus, lack of a suitable device to cope with creativity problems, such as uncertainty constraints, the rate of success in creativity was approximately low, and due to the various levels of awareness, complexity, and dynamism (Yeh & Huan, 2016; Karam, 2020).

Environmental uncertainty referred to the combined factors encompassing the level of complexity and environmental changes in the organization (Darya, 2020). With the continuous environmental problems, hotels face from the past, the industry struggled to decrease the level of environmental threats (Reza-pouraghdam et al., 2017). The ever-changing business world was confronting new challenges, business priorities, and disrupts the traditional models (Vetráková, Šimočková, & Pompurová, 2019; Darvishmotevali & Tajeddinib, 2019). The utmost familiar origins of uncertainties in the business environment were amid these factors, competitors, technology, and market (Sarwar & Khan, 2016; Westphal & Zhu, 2017; Latif, 2018; Xiao et al., 2019; Darvishmotevali et al., 2020). Those uncertainties did affect businesses including hotel sectors because uncertainty surrounds all aspects of organizations' lives (Samsami et al., 2015).

As the hotel industry was influenced by politics (Grosanu & Bota-Avram, 2015; Cepel, Dvorskýand,



& Belas, 2019), environmental (Bala & Verma, 2019), and economic issues, (Gantino, Ruswanti, & Rachman, 2017), lots of businesses were so affected and even made the attractiveness of hotel reduce because of COVID-19 (Filimonau et al., 2020; Siddiqui, 2020). Claiming COVID-19 global concerns Guevara (2020) stated that the travel and tourism field was “already facing collapse” and “in a fight for survival” (as cited in Jiang & Wen, 2020). In conjunction with the decline in economic enterprise, hotels were also inclined to reduce tourism and travel (Hoisington, 2020). Hoque et al. (2020) claimed that the pandemic had the potential to affect the balance sheets of companies, especially those operating in the tourism and travel sectors; since the crisis may theoretically affect the financial output of businesses (Secinaro, 2020). Thus, in this condition, lots of uncertainties occur and have effect on different businesses. The pandemic has changed our behaviors and the way we perceive things while we are confronting a new world (Sherifdeen, 2020). The clustering of uncertain conditions that led to issues and problems for different organizations is filling up. Further uncertainties associated with the pandemic continue (Guiam, 2021). A cluster is a number of similar things that occur together; thus, clustering is a set of sub-sets (Greenberg et al., 2018). Even though this kind of uncertain condition has negative effects on organizations it could also lead to significant reform in the perspective of organizational strategy (Linn & Maenhout, 2019), in which strategy needs creativity (Waples & Friedrich, 2015; Brandenburger, 2019). Thus, considering the outside environment would allow business personnel to make appropriate modifications to their marketing plan to make it more resilient to the external environment;

some authors even claimed that uncertainty can be a positive factor and frequently acts as a trigger for strategic business activities (Haque & Ali, 2016; Yu et al., 2017; Mukherji, J., 2017).

Living in an age of agility, organizations need to boost their speed, adaptability, and creativity, which are essential practices for every organization (Gillespie & Singleton, 2018). Luthje (2020), Group Director of Rooms and Quality for Mandarin Oriental Hotel Group, believes that agility is the key to improving processes and delivering superb guest experiences in hotels, specifically in their manner of communication (as cited in Paraschiv, 2020). As organizational agility was the capability of management to sense and react immediately to environmental changes, it was an essential determinant of organizational achievement (Nafei, 2016; Butters & Hubbard, 2019). Marriot Hotel also firmly believes that agility is a needed practice where data should allow marketers to take the pulse of their audience, gauge what is working (and what isn't) and stay nimble (Wilder, 2020). Organizational agility was also explained as the organizational capacity to notice unforeseen changes in the environment and respond proficiently and quickly by using and reconfiguring internal assets; in this manner, it helped the company gain a competitive advantage (Zitkiene & Deksnys, 2018). Moreover, organizational agility was an approach which perhaps engaged aid businesses to cope and accept environmental uncertainty, coordinated with achieving organizational creativity (Darvishmotevali et al., 2020). Hence, organizational agility helped companies to accomplish targets such as creativity, success, excellence, and sustainability (Olszak, 2015; Jannati & Khodadadi, 2016; Nafei,



2016; Carvalho et al., 2017; Obradović et al., 2018; Karvonen, et al., 2018). Therefore, by developing and encouraging some features of the organization; top management could enhance the scope of organizational agility (Nafei, 2016; Yoo & Kim, 2019). Beneath uncertain conditions, developing and improving organizational agility is fundamental for a firm to gain a competitive advantage (Duran, 2015; Darvishmotevali & Tajeddinib, 2019).

That was why the research tried to use organizational agility as a moderator in the study. Though environmental uncertainty has been tested as a moderator by various research (Chen & Zhang, 2016; Lutfi, 2017; Mukherji & Mukherji, 2017; Darvishmotevali, Altinay, & De Vita, 2018); organizational agility has not been tested as a possible moderator of environmental uncertainty (Darvishmotevali et al., 2020). Moreover, in fostering creativity and addressing uncertainty in unpredictable settings, the author of this research asserted that agility can be a core force for organizations. Consequently, it proposed to assess the effect of organizational agility as an operational instrument that reduces the unfavorable effect of environmental uncertainty on organizational creativity.

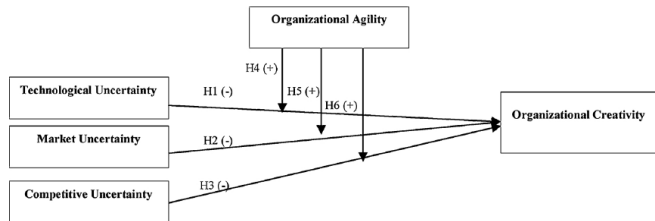
### *Conceptual Framework*

According to research by Darvishmotevali et al. (2020), organizational agility was viewed as a moderating tool for resolving environmental uncertainties and seeking ways to enhance the creative performance of management. The study claimed that environmental uncertainty derives from an individual's failure to predict the future and inaccessibility

to adequate knowledge during the decision-making process. Creativity should therefore be focused on the development of a desirable, usable new good, service, concept, method, or mechanism by people who work together in a dynamic society. The research explored and presented several potential hypotheses as to how various causes of environmental uncertainty affect organizational creativity and how organizational agility can moderate these variables. Using the descriptive statistics, the authors performed the study in North Cyprus' five-star hotels, where they applied purposive sampling to identify respondents from these hotels. To gather accurate and relevant information, they have chosen main sources carrying at least either of 10 managerial roles (namely food & beverage, house-keeping, management, chef, security, front office, marketing and sales, general administration, casino management, and PR management). Every hotel received a letter written in Turkish, which was forwarded to the respective managers. With the acceptance of said managers, questionnaires were circulated, which provided accurate data to 174 managers of 5-star hotels in North Cyprus. The authors used AMOS 26.0 to assess the adequacy of the model and to evaluate the hypotheses of the research. The author argued that the results of the research added to the literature on the three major study variables (environmental uncertainty, organizational creativity, and organizational agility) to illustrate the essential role of organizational agility in the uncertain environment of the hospitality industry, which is mainly focused entirely on confusion and contingency theories. In the model with the predicted signs (-) and (+) of path coefficients in parenthesis, hypotheses were displayed as labels on paths. The study was anchored to of Darvishmotevali



et al., (2020), “The Link Between Environmental Uncertainty, Organizational Agility, and Organizational Creativity in the Hotel Industry”.



**Figure 1. The Link Between Environmental Uncertainty, Organizational Agility, and Organizational Creativity in the Hotel Industry (Darvishmotevali et al., 2020)**

The result indicated that technological uncertainty had a significant negative effect on organizational creativity. Further, market uncertainty and competitive uncertainty had a negative effect on organizational creativity. The interactive effect of technological uncertainty and organizational agility on organizational creativity was significant, and it was concluded that organizational agility decreases the negative effect of technological uncertainty on organizational creativity. The same outcome was verifiable for competitive uncertainty and organizational agility on organizational creativity, which is significant as well, and this was confirmed by the slope test done in the study. Nonetheless, the collective effect of market uncertainty on organizational agility and organizational creativity was negatively significant.

### Operational Framework

Based on the conceptual framework outlined in Figure 1, the current study was guided by the operational framework illustrated in Figure 2. While the study of Darvishmotevali et al., (2020) was conducted in North Cyprus, the study was conducted in the Phil-

ippines, specifically in five-star hotels in the NCR.

This study had three independent variables, such as market uncertainty (MEU), technological uncertainty (TEU), and competitive uncertainty (CEU). The moderator of the study was organizational agility (OA) as well. Thus, the organizational creativity (OC) of a hotel was considered the dependent variable. It tried to indicate that there is a significant effect of the three main aspects of environmental uncertainty on the organizational creativity of hotels and will extend to the moderating concept of organizational agility, which tried to signify that there is a significant effect between environmental uncertainties and a hotel’s creativity. Moreover, the study tried to examine the combined effect of clustered uncertainties as well on hotel’s organizational creativity. Guided by the conceptual framework of Darvishmotevali et al., (2020), the same questionnaire was used to gather data nevertheless in testing the effect between the variables additional hypotheses were plotted.

### Objectives

The primary goals of this research were two-fold: one, to measure the effect of various forms of environmental uncertainties (technological, market, and competitive) on organizational creativity within the hotel industry, and two, to expand the moderating concept of organizational agility in an uncertain environment to hotels’ organizational creativity. The main objectives of this study are as follows:

1. To determine the effect of technological uncertainty, market uncertainty, and competitive



uncertainty on organizational creativity in the hotel industry.

2. To determine the effect of environmental uncertainties and organizational agility on organizational creativity in the hotel industry.
3. To determine if organizational agility significantly moderates the effect of technological uncertainty, market uncertainty, and competitive uncertainty on organizational creativity in the hotel industry.
4. To determine if organizational agility significantly moderates the effect of environmental uncertainties on organizational creativity in the hotel industry.

Ho6. Organizational agility does not significantly moderate the effect of clustered environmental uncertainties on organizational creativity in the hotel industry.

### MATERIALS AND METHODS

The study examined and evaluated the role of environmental uncertainties in five-star hotels in the Philippines. These extended their evaluation of agility concerning uncertain environments to the creativity of five-star hotels in the NCR (Appendix B) through a causal descriptive research design. The gathering of data started with a letter that was sent to those selected hotels together with the questionnaire (Appendix A) adopted from Darvishmotevali, et al. (2020) through email. The data went through simple linear regression and multiple regression, which helped to evaluate the effect of each variable, in which a p-value of  $<.05$  on the results would indicate a significant effect. Moderation analysis, which measures the effect of the moderator was applied in the research. Purposive sampling was used for the study. Respondents of this study were managers or personnel with equivalent knowledge and skills about the operations of the establishment (chief personnel, department head, senior officer). Managers were asked since they perform important positions in administering data and information, then they even play many duties and responsibilities in the hotel (Żegleń, 2017). Managers play a decisive role in all management processes (Tovmasyan, 2017). They were located in the center between vertical and horizontal knowledge or even data transfers (Darvishmotevali, 2020).

The proposed number of respondents was gath-

### *Hypotheses*

The study addressed the following hypotheses (H):

- Ho1. Technological uncertainty, Market uncertainty, and Competitive uncertainty do not significantly affect organizational creativity.
- Ho2. Environmental uncertainties do not significantly affect organizational creativity.
- Ho3. Organizational agility does not significantly moderate the effect of technological uncertainty on organizational creativity.
- Ho4. Organizational agility does not significantly moderate the effect of market uncertainty on organizational creativity.
- Ho5. Organizational agility does not significantly moderate the effect of competitive uncertainty on organizational creativity.



ered from 16 five-star hotels in NCR based on the data of DOT (Appendix B). The list from DOT (Department of Tourism) would ensure the level and qualification of each 5-star hotel within the study are in range. However, out of 16 hotels, 5 hotels were able to participate in the survey, due to conditions brought on by the pandemic which enabled to gather 95 responses. This is beyond the required minimum sample size of 77, computed through the G power analysis with an effect size of 0.15, power of 0.80, and 3 identified predictors. The population size was based on the managers or personnel (senior staff, department head and chief personnel) with equivalent knowledge and skills about the operations of the establishment (Appendix C). Mayr et al. (2007) stated that G-power was a tool to compute statistical power analyses for many different t-tests, F tests,  $\chi^2$  tests, z tests and some exact tests; then it could also be used to compute effect sizes and display graphical results of power analyses (as cited in Margraf et al., 2020).

Table 1 shows the key areas and assessment in the questionnaire adopted from Darvishmotevali, et al. (2020) which was aligned to the objectives of the study. The first part was comprised of eighteen (18) items intended to measure competitive environment uncertainty from 1 to 6, market environment uncertainty which was from 7 to 12, and then technological environment uncertainty from 13 to 18. The second part was comprised of five (5) items intended to measure organizational agility from 19 to 23. The last part was comprised of fifteen (15) items intended to measure organizational creativity within 24 to 38. The participants were asked to answer the items on a 5-point Likert scale ranging from 1 (completely disa-

gree) to 5 (completely agree). The questionnaire had been through a pretest to identify the reliability of the questionnaire in the Philippines set up.

**Table 1. Questionnaire Specification**

Part	Variable	Item No.
I.	<b>Environmental Uncertainty</b>	
	Competitive Environment Uncertainty	1 to 6
	Market Environment Uncertainty	7 to 12
	Technological Environment Uncertainty	13 to 18
II.	<b>Organizational Creativity</b>	19 to 23
III.	<b>Organizational Agility</b>	24 to 38

Table 2 shows that the instrument passed the reliability test with an overall Cronbach's Alpha of 0.874. Cronbach's Alpha reliability coefficient normally ranges between 0 and 1; however, there was a lower limit to the coefficient in the questionnaire. Therefore the researcher excluded 2 items from the questionnaire which makes it 36 items from 38 items. The closer Cronbach's Alpha coefficient is to 1.00 the greater the internal consistency of the items in the scale. George & Mallory 2003 (as cited by Terhorst, et al., 2020) provides the following techniques: a)  $> 0.90$  = Excellent; b)  $0.80 - 0.89$  = Good; c)  $0.70 - 0.79$  = Acceptable; d)  $0.60 - 0.69$  = Questionable; e)  $0.50 - 0.59$  = Poor; and f)  $< 0.50$  = Unacceptable.

**Table 2. Reliability Test**

Part	Variable	Cronbach Alpha
I.	<b>Environmental Uncertainty</b>	.713
	Competitive Environment Uncertainty	.677
	Market Environment Uncertainty	.721
	Technological Environment Uncertainty	.704
II.	<b>Organizational Creativity</b>	.897
III.	<b>Organizational Agility</b>	.935
	<b>Overall</b>	.874

## RESULTS AND DISCUSSION

This contains the analyses performed with the data using the appropriate statistical tools and achieved the following outcomes.





*Descriptive Statistics*

Table 3 presents the respondents' mean level of agreement on each variable based on the survey questionnaire. Results reveal that the respondents had been experiencing most of the conditions in all items of the independent variable, environmental uncertainties (M=3.52 to 3.90). Among the variables of environmental uncertainty: competitive environment uncertainty, market environment uncertainty, and technological environment uncertainty; market environment uncertainty has the highest level of agreement which reveals that uncertainties in terms of market conditions are being experienced by the employees. The data unveils that the respondents did experience catering to the same guests that we(the hotel) used to in the past (M=4.12), clients tend to look for new products all the time (M=3.99) and new clients tend to have product-related needs, which is different from existing clients' trend (M=3.97). Although competitive environment uncertainty has a good level of agreement (M=3.52), it has the lowest level of agreement among the 3 environmental uncertainties. This implies that competitive environment uncertainty has the lowest level of implication in hotels. Thus, it discloses that employees are not experiencing highly the issue of competitive uncertainty.

Then based on the survey questionnaire, moderator results reveal that respondents do apply ways for organizational agility (M=4.35) for having a high level of agreement. This suggests that the respondents perceived that they do practice solving customers' complaints immediately (M=4.62), introducing new productions and services at the best time (M=4.42),

then being fast in identifying consumer changes and changing & implementing strategic actions on time (M=4.41). It shows that hotels' employees are practicing organizational agility ways as such it embeds already in some of the practices of hotels.

For the dependent variable, results reveal respondents are performing practices for organizational creativity (M= 4.15). This implies that the respondents perceived that they perform producing novel and useful ideas (service/product) actively (M=4.21), creating an environment, which stimulates our ability to produce novel and useful ideas (service/product) (M=4.19) and producing novel and useful ideas (service/product) as an important activity (M=4.13).

Table 2. Reliability Test

Variable	Mean	Standard Deviation	Verbal Interpretation
<b>Environmental Uncertainty (EU)</b>	<b>3.75</b>	<b>0.65</b>	Agree
-Competitive Environment Uncertainty (CEU)	3.52	0.79	Agree
-Market Environment Uncertainty (MEU)	3.90	0.53	Agree
-Technological Environment Uncertainty (TEU)	3.83	0.64	Agree
<b>Organizational Agility (OA)</b>	<b>4.35</b>	<b>0.51</b>	Agree
<b>Organizational Creativity (OC)</b>	<b>4.15</b>	<b>0.75</b>	Agree

Results show that the data for each variable was found relatively important for the respondents of five-star hotels. Competitive environment uncertainty is the variable where it considerably has the lowest mean of 3.52 ranging from 3.09 to 3.72, which implies that hotels feel that there is a low issue for competitive environment uncertainty in the organization. Further, even the mean result of the items reached above the median response of 3 which was used in the questionnaire still implies that the respondents of the study see that their hotel regarding competitive uncertainty is near to neutral. In a highly competitive and currently unstable environment which with the rest of the industry reinforced the point that the form of quality competition shapes industry structure, practices and ways





to eliminate or lessen issues of the competitive environment is an important factor (Butters & Hubbard, 2019). Moreover, serious consideration of potential competitors and their activities is required within the hospitality industry to avoid competitive uncertainty (Darvishmotevali et al., 2020). Then organizational agility seems to be a good contribution of employees to hotels with a mean of 4.35, but efforts were focused and applied in some wrong creative practices.

#### *Effect of Environmental Uncertainties on Organization Creativity*

Table 4 shows the multiple linear regression results, indicating the effects of competitive environment uncertainty, market environment uncertainty, and technological environment uncertainty on organizational creativity. Results revealed that technological environment uncertainty among the three (3) factors has a significant effect ( $p = .007$ ) on organizational creativity. This means that the employees are experiencing technological uncertainty in their hotel and with a positive contribution ( $\beta = 0.471$ ) to organizational creativity. Creativity is deeply connected to issues of technology integration, so these issues of creativity and technology can be considered in tandem (Henriksen et al., 2016). Thus, it indicates that the more technological uncertainty in a hotel the more creative practices may be performed. The negative result on competitive uncertainty ( $\beta = -0.114$ ) and market uncertainty ( $\beta = -0.149$ ) indicates that these negative effects will not significantly affect organizational creativity as their p-values are greater than 0.05. The result in the multiple regression asserts that some environmental uncertainty has a significant effect on

organizational creativity with a p-value = 0.023 and 12% of the variability in organizational creativity is attributed to environmental uncertainties ( $R^2 = .12$ ).

In calculating the combined environmental uncertainties, using the analysis in the mean of each independent variable and with regression matrix. Table 4.1 indicates the effect of environmental uncertainties on organizational creativity is not significant, revealing a  $\beta = 0.166$  or 16.6% contribution to organizational creativity (p-value=.317), Further, only 1.3% of the variability in organizational creativity is attributed to competitive environment uncertainty ( $R^2 = .013$ ).

The study shows that technological environment uncertainty has a significant positive effect on organizational creativity, which means that the more technological uncertainty there is in a hotel, the more creative practices are likely to be performed. This suggests that hotels should embrace technology and be open to technological changes to promote creativity. The negative results on competitive environment uncertainty and market environment uncertainty indicate that these factors do not significantly affect organizational creativity. This implies that hotels need not worry too much about market and competitive uncertainties, as they are not likely to hinder their creative practices. The study finds that only 12% of the variability in organizational creativity is attributed to environmental uncertainties, which means that there are other factors that may affect organizational creativity. This suggests that hotels should look beyond environmental uncertainties and explore other factors that may contribute to creativity.



**Table 4. Effect of Competitive Environmental Uncertainty, Market Environmental Uncertainty, and Technological Environmental Uncertainty on Organization Creativity in the Hotel Industry**

	B	Coefficients Std. Error	p-values	t-values	Decision on $H_{0i}$	Verbal Interpretation
Constant	3.327	.623	.000	5.339		
Competitive Environmental Uncertainty	-.114	.124	.361	-.920	Failed to Reject	Not Significant
Market Environmental Uncertainty	-.149	.229	.519	-.649	Failed to Reject	Not Significant
Technological Environmental Uncertainty	.471	.168	.007	2.799	Reject	Significant
Dependent variable: <i>Organizational Creativity</i>						
	$R^2 = .12$	$f\text{-value} = 3.371$			$p = .023$	

**Table 4.1 Effect of Environmental Uncertainties on Organization Creativity in the hotel industry**

	$\beta$	Coefficients Std. Error	p-values	t-values	Decision on $H_{0i}$	Verbal Interpretation
Constant	2.792	.500	.000	5.588		
Technological Environmental Uncertainty (TEU)	.355	.129	.007	2.758	Reject	Significant
Dependent Variable: <i>Organizational Creativity</i>						
	$R^2 = .091$	$f\text{-value} = 7.606$			$p = .007$	

Environmental uncertainty can be driven by several environmental components (Darvishmotevali et al., 2020). It refers to the uncertainty around an organization (Chen & Zhang, 2016). Environmental uncertainty is mainly in the form of the inability to determine the likelihood of future events, lack of information about the cause-and-effect relationships, inability to accurately predict the implications of the decision, etc. (Samsami et al., 2015). But environmental uncertainty had a positive effect on creativeness as well (Haque & Ali, 2016; Chen & Zhang, 2016; Yu et al., 2017; Mukherji, J., 2017). Moreover, uncertainty was an important phenomenon in some fields such as organizational theory, marketing and strategic management (Duran, 2015). Then, when it comes to technological environmental uncertainty which emphasizes technological aspects of the uncertainty gives direction for more technological developments that deal with creativity (Blind et al., 2017). In some, a deep understanding was needed for technological uncertainty

which implies difficulty in predicting the time and effort required for successful creative practices (Dawid & Wen, 2020). Further, technological uncertainty is an organization’s inability to understand or anticipate some aspects of the technological environment (Darvishmotevali, et al., 2020). However, Gelderman et al. (2016) suggested that technological uncertainty can stimulate an organization to develop new products and enter new markets. Tams and Turel (2018) even believed that technological uncertainties have a positive indirect effect on the creativity or innovation of an organization. Then, Market uncertainty is associated with the unknowns correlated with solving problems, such as hidden customer attitudes, tastes, and preferences (Darvishmotevali et al., 2020). Moreover, Hallin and Marnburg (2007) even stated that in some seasonal products and services where demands can fluctuate over time and change through customers’ demands, preferences and interests happen unpredictably; it is essential to boost creativity (as cited in Köseoglu et al., 2018). But Solvic (2011) stated that market uncertainty is heterogeneous and efforts should be made towards its proper understanding and classification (as cited in Gaarder & Bartsch, 2015). Difficulties in understanding and working to “unknown” because of it being heterogeneous or having diverse ingredients will result in fear, chaos and suffering which will make people react differently to uncertainty (Irving, 2020). Therefore, these behaviors which are the result of uncertainty, are the factors that have a great effect on the process of change and creativity (McCullen, 2021). Lastly, Competitive uncertainty refers to unpredictable situations within organizations and their major competitors’ nature, plans, strategies, and responses to environmental changes (Darvishmotevali,





et al. 2020). As such competition mostly comes from direct competitors in most industries but as studied in hotels by Davis (2017) significant changes in the travel and hotel industry over the past 10 years which the biggest competitive challenges are not from the direct/major competitors (airlines, travel, hotel or leisure companies) but from the “indirect competition”. Indirect competition takes place among sellers of different commodities but of the same product group; these indirect competitors are “new market makers” who aggregate global demand and leverage market power to capture revenue and profit from incumbent players (Bhasin, 2020; Davis, 2017). The challengers include online retailers (Expedia, Priceline), media companies (Google, Trivago, Kayak), hotel and lodging companies (Airbnb) and food delivery services (Deliveroo, Grubhub); (Davis, 2017). Concludes why the study showed that competitive uncertainty does not significantly affect organizational creativity because today’s hotels are more uncertain in technological advancement (online platforms) in terms of accommodation reservations which play a key role in setting great first expectations (Latif, 2018). Therefore, when some uncertain environment arises the more the organization will make current planning and predictive techniques obsolete and require firms to focus on what they can do with means at hand or leverage contingencies (Yu et al, 2017). That will produce new services and products which are encapsulated in the practices of organizational creativity (Gelderman et al., 2016).

#### Effect of Technological Environment Uncertainty on Organizational Creativity in moderation of Organizational Agility

Table 5 shows the moderation analysis indicating the moderating effect of organizational agility between technological environment uncertainty and organizational creativity. The findings in Table 5 indicate that organizational agility does not significantly moderate the effect between technological environment uncertainty and organizational creativity with  $\rho$  value of 0.373 which is statistically not significant since the p-value is greater than 0.05. R2 change of 0.189 implies that 18.9% of the variation in organizational creativity is the interaction between organizational agility and technological environment uncertainty. As the moderating effect of organizational agility increases or decreases on technological environment uncertainty, organizational creativity will not change.

The findings in Table 5 imply that organizational agility does not play a significant role in the relationship between technological environment uncertainty and organizational creativity. Moreover, this data could suggest that other factors, aside from organizational agility, could be influencing organizational creativity. The fact that organizational creativity would not change regardless of whether the moderating effect of organizational agility on technological environment uncertainty increases or decreases implies that organizational agility may not be a critical factor in promoting organizational creativity. Other factors such as leadership, employee engagement, and organizational culture may play a more significant role in fostering creativity in the workplace.



Table 5. Effect of Technological Environment uncertainty on organizational creativity in the hotel industry with the moderation of organizational agility.

	B	Coefficients Std. Error	p-values	t-values	Decision on H <sub>0</sub>	Verbal Interpretation
Constant	4.162	.079	.000	52.738		
Technological Environment Uncertainty	.134	.085	.121	1.567	Failed to Reject	Not Significant
Organizational Agility	.235	.086	.008	2.745	Reject	Significant
Technological Environment Uncertainty X Organizational Agility	-.066	.073	.373	-.896	Failed to Reject	Not Significant

Dependent variable: Organizational Creativity  
*R*<sup>2</sup> change = .189      *F* change = 5.743      *Sig F* change = .001

These results do not reinforce the previous study of Darvishmotevali et al. (2020) which shows that organizational agility has an effect but not as a moderator. Krubasik (2018) said that agility is a very valuable skill that links to creativity and often leads to more effective and more productive businesses. Organizational agility is about creating an adaptable organization with a higher possibility to drive disruption in society, the industry & the marketplace (Coleman, 2021).

Effect of Market Environment Uncertainty on Organizational Creativity in moderation of Organizational Agility

The findings in table 6 indicate that organizational agility does not significantly moderate the effect between market environment uncertainty and organizational creativity with a p value of 0.251 which is statistically not significant since the p-value is greater than 0.05. The study asserts the change in R2 is reported as 0.169 or 16.9% variation in organizational creativity which is the interaction between organizational agility and market environment uncertainty. As the moderating effect of organizational agility increases or decreases on market environment uncertainty, organizational creativity would not change.

The study suggests that organizations with high levels of agility may not necessarily experience significantly different levels of creativity compared to organizations with low levels of agility, in the face of market environment uncertainty. Such, findings may imply that that even though organizational agility is considered an important factor in adapting to the market environment, it may not necessarily influence the level of creativity within the organization. The given data may also indicate that other factors may also play a role in determining organizational creativity in uncertain market environments.

Table 6. Effect of Market Environment Uncertainty on Organizational Creativity in the Hotel Industry with the Moderation of Organizational Agility

	B	Coefficients Std. Error	p-values	t-values	Decision on H <sub>0</sub>	Verbal Interpretation
Constant	4.172	.081	.000	51.533		
Market Environment Uncertainty	-.001	.082	.990	-.012	Failed to Reject	Not Significant
Organizational Agility	.291	.082	.001	3.533	Reject	Significant
Market Environment Uncertainty X Organizational Agility	-.083	.072	.251	-1.157	Failed to Reject	Not Significant

Dependent variable: Organizational Creativity  
*R*<sup>2</sup> change = .169      *F* change = 5.012      *Sig F* change = .003

Organizational agility shows an effect but not as a moderator on the study and this result does support the study of Darvishmotevali et al. (2020). As stated by Darvishmotevali et al. (2020), the more unknowns there are regarding customer preferences, the greater the market uncertainty. Failing to react in time to a changing market, changing consumer, or changing channel mix can have far-reaching consequences (Andrew, 2020). Wheatcroft, (2020) even stated that the hospitality(hotel) sector is critical to look at scenarios for different recovery trajectories in different countries, to understand where and how marketing spend could be effective (as cited in Andrew, 2020). Whereas Sherehiy et al. (2007) stated that organizational





agility offers companies the opportunity to be more flexible and creative, to adapt and respond rapidly to control risk (as cited in Akkaya & Tabak, 2020).

*Effect of Competitive Environment Uncertainty on Organizational Creativity in Moderation of Organizational Agility*

Table 7 shows the moderation analysis indicating the moderating effect of organizational agility between competitive environment uncertainty and organizational creativity. R<sup>2</sup> change of 0.205 denotes that 20.5% of the variation in organizational creativity is the interaction between organizational agility and technological environment uncertainty. We can conclude that organizational agility does not significantly moderate the effect of competitive environmental uncertainty on organizational creativity because the p value of 0.085 is statistically not significant since the p-value is greater than 0.05.

Therefore, as the moderating effect of organizational agility increases or decreases on competitive environment uncertainty, organizational creativity would not change. This means that regardless of whether the organization is more or less agile, the level of creativity within the organization will not be affected by the level of uncertainty in the competitive environment. Such could suggest that even in uncertain and competitive environments, organizations can still foster creativity without necessarily relying on agility. The fact that the p value of 0.085 is statistically not significant suggests that there may be other factors that play a more significant role in moderating the effect of competitive environmental uncertainty

on organizational creativity. Further research could explore these additional factors in more detail to gain a better understanding of their impact.

**Table 7. Effect Of Competitive Environment Uncertainty on Organizational Creativity in the Hotel Industry with the Moderation of Organizational Agility**

	B	Coefficients Std. Error	p-values	t-values	Decision on Ho	Verbal Interpretation
Constant	4.201	.082	.000	51.027		
Technological Environment Uncertainty	-.105	.079	.188	-1.329	Failed to Reject	Not Significant
Organizational Agility	.299	.079	.000	3.776	Reject	Significant
Technological Environment Uncertainty X Organizational Agility	-.129	.074	.085	-1.743	Failed to Reject	Not Significant
Dependent variable: Organizational Creativity						
R <sup>2</sup> change = .205		F change=6.36		Sig F change = .001		

In the study of Darvishmotevali et al. (2020) investigation of the moderating effects of organizational agility between competitive environment uncertainty and organizational creativity is significant. However, the effect of organizational agility in this current study between competitive uncertainty and organizational creativity is not significant, but still, agility shows an effect but not as a moderator. Appelbaum et al. (2017) stated that if organizations want to survive and be successful in a competitive environment, having a higher level of agility is necessary for a complete and in-depth strategic transformation (as cited in Darvishmotevali et al., 2020). Further, organizational agility can also advance the quality of activity of an organization to environmental fluctuations and, by the way, it can increase firms' creative performance as stated by Tallon & Pinsonneault (2011) (as cited in Akkaya & Tabak, 2020).

*Cluster Effect of Environment Uncertainties on Organizational Creativity in Moderation of Organizational Agility*





Table 8 shows the moderating effect of organizational agility on the cluster effect of the three environment uncertainties on organizational creativity. The findings in Table 8 indicate that organizational agility does not significantly moderate the effect between the cluster or combined environment uncertainties and organizational creativity with a p value of 0.144 which is statistically not significant since the p-value is greater than 0.05. The study asserts the change in R2 is reported as 0.178 or 17.8% variation in organizational creativity which is the interaction between organizational agility and environmental uncertainties. As the moderating effect of organizational agility increases or decreases on environmental uncertainties, organizational creativity will not change.

Table 8. Cluster Effect of Environment Uncertainties on Organizational Creativity in the Hotel Industry with the Moderation of Organizational Agility

Table with 7 columns: B, Coefficients Std. Error, p-values, t-values, Decision on Ho, Verbal Interpretation. Rows include Constant, Environmental Uncertainty, Organizational Agility, and Environmental Uncertainty x Organizational Agility. Summary statistics at the bottom: R² change = .178, F change = 5.342, Sig F change = .002.

Moreover, the findings presented in Table 8, appears that organizational agility does not play a significant role in moderating the relationship between environmental uncertainties and organizational creativity. The study reports a small change in R2, which indicates that the interaction between organizational agility and environmental uncertainties only accounts for a small percentage of the variation in organizational creativity. Hence, implies that organizational agility may not play a crucial role in enhancing creativity in an organization that operates in an uncertain environ-

ment. The finding that organizational creativity will not change as the moderating effect of organizational agility on environmental uncertainties increases or decreases implies that the relationship between these variables is not dynamic. Organizations that prioritize agility may not necessarily experience more significant creativity benefits in uncertain environments, and vice versa. Overall, it seems that organizational creativity is influenced more by other factors beyond the moderating effect of organizational agility on environmental uncertainties.

New technologies, competitors, and markets (customer needs) often demand materially different solutions, which call in turn for radically different ways of working (Gillespie & Singleton, 2018). Whereas agility is seen as a recipe to solve many different problems and to increase performance and creativity (Nafei, 2016; Krubasik & Prange, 2018; Darvishmotevali et al., 2020). Kisielnicki et al. (2014) even claimed that agility is the answer to improving the level of creativity which may be a stimulator of economic development (as cited in Olszak, 2015).

CONCLUSION AND RECOMMENDATIONS

This study addressed the moderating effect of organizational agility between environmental uncertainty (competitive uncertainty, technological uncertainty and market uncertainty) and organizational creativity. Further, this research investigated the direct effect of environmental uncertainties on organizational creativity in hotels. First, it was revealed that the three (3) types of EU; CEU, MEU and TEU, when taken individually, TEU has a significant positive effect on OC so it does not support Ho1 while MEU and CEU





are not significant which failed to reject Ho2 and Ho3. Further, the cluster or combination of CEU, MEU and TEU does not have a significant effect on organizational creativity stating that it does support Ho4. Second, OA does not significantly moderate the effect between environmental uncertainties (CEU, MEU and TEU) both cluster and individually on organizational creativity, and as such it failed to reject Ho5 to Ho8. This shows that some EU can make or break OC practices in the hotel industry. Whereas some uncertainty like technological issues can be positive to hotels' creativity and as such can be negatively significant as studied by Darvishmotevali et al. (2020). Therefore, uncertain conditions can also boost and heighten the creation of useful new services, products, ideas, procedures and processes in terms of organizational creativity. It will not only motivate organizational creativity and adaptability, but it will also enhance their strategic performance, which will improve the quality-of-service practices in hotels; moreover, implies sustainability for being prepared in times of other unforeseen uncertain events.

The application of organizational agility is a long-term process that necessitates significant leadership engagement and coordination through a company's numerous divisions. It is a challenge many are not well equipped to meet. Thus with the uncertain conditions, the application of the needed process or procedure and even to elevate innovative or creative ways are necessary to be done and applied as soon as possible or even ahead of time to lessen the issue of failure in business.

As the study was anchored to the sustainable

development goal of industry, innovation and infrastructure it was revealed that among environmental uncertainty, TEU effect significantly on OC with a mean of 3.83, wherein it implies technological changes provide big opportunities (M=4.22). In today's generation where technology is a way of life; where it contours and shapes the industry's culture, it is necessary to embrace and adopt technology's changes for a company to be sustainable enough in the evolution of processes in products and services. The result reveals the need for technology as it braces for the success of a company. Krubasik and Prange (2018) even stated that new technologies are influencing the way industries use energy, redefine mobility, or revolutionize payment solutions. Moreover, as pointed out when it comes to the competitive issue of hotels it seems to be coming from indirect competitors which had been stated by (Bhasin, 2020; Davis, 2017). Thus, these indirect competitors of hotels are more on to website platforms which deal in technological issues where private properties are posted and could be rented by the public (AirBNB), therefore it is a point also for hotel establishments to boost their online presence in some reputable websites (booking.com, TripAdvisor, Trivago, decalor.com and Hotels.com). Then, it suggested that hotels should find technological processes and devices that could ease the ways of providing satisfactory efforts for the needs and wants of their customers as it shows in the study that it affects the creativity of hotels. As an establishment that sells intangible products customer or market preferences are hard to predict because each guest has their own perception of being satisfied and delighted in an experience to hotel. As the result suggested that hotel should still be inclined and cater to clients



that they had from the past. Then, training, seminars and collaborative practices from other hotels abroad or local (e.g. MICE) will be able to help the employee to understand and learn the culture, values and beliefs of other people which can heighten the understanding of guests' preferences because of being exposed to a more diverse and unfamiliar environment that could answer the need of past and new clients.

Lastly, the moderating effect of OA between EUs and OC is not significant in individual and cluster or combined. Then, the study unveiled that organizational agility has an effect but not as a moderator as it is also proven in the previous studies of Darvishmotevali and Tajeddini (2019). The study implicates the need to implement new technology immediately ( $M=4.17$ ), followed by the need to be fast in identifying technological changes ( $M=4.21$ ) and to be more adaptive for changing prices rapidly at the best time ( $M=4.23$ ). This result just reveals that the hotels see the need for technological aspects but most of them cannot easily support such technological issue for the organization. Further, they cannot adapt that easily to price changes when it comes to the changing demands and needs of the market or customers. Therefore, hotels should be more agile into these pressing problems to lessen the burden of the forthcoming consequences related to uncertain events and to enhance the positive effect of some uncertain conditions on the creativeness of hotels. Moreover, a high degree of organizational agility helps a company process new information and react successfully to changes in customer behaviors, manufacturing and/or operating capabilities, and supply chain availability (Fresneau, 2020). Although it has been seen in this study that OA does not significant-

ly moderate EU and OC, it should be noted that the moderating effect of OA is still an ongoing process where Darvishmotevali et al. (2020) even stated that organizational agility had not been tested as a possible moderator of environmental uncertainty from the past researches, so it is suggested to perform further study for its undeniable positive effect to different organizations. And while no one still determines when things will be back to normal, research assumes one thing will remain constant: the value of seeking a rebalancing solution.

#### *Limitations of Research*

The current study was limited to 5-star hotels within NCR registered in DOT and a different locale may be explored using the same variables used in the study. The survey results were taken from an online platform and as much as the researcher would like to have a more objective result of the study, some participants declined to participate and did not disclose due to company policy. Since the study focused on the effect of OA and EU on OC, an additional variable may be studied by investigating the moderating effect of employee creativity, work environment, and the social interactions of employees which influence organizational creativity (Arun & Sudha, 2017; Smith & Green, 2020). The study was conducted in the time of the COVID-19 pandemic. As much as the study wants to have a wider scope it is been hindered by this condition.

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