European International University, EIU-Paris

Master`s Capstone Project

Title:

FACTORS THAT INFLUENCED DIGITAL TRANSFORMATION FOR BUSINESS SURVIVALIN COVID-19 PANDEMIC: A CASE STUDY OF REAL ESTATE FIRMS IN THAILAND

Submitted by:

Amar Chaitanya Podila

In Partial Fulfillment of the Requirements for the Degree of

Master of Science in Information Technology and Data SCIENCE

Supervisor:

Dr. Raheel Asghar

Date:

October,2024

COVER PAGE AND DECLARATION

Specialisation:	
Module Code & Module Title:	
Students' Full Name:	Amar Chaitanya Podila
Word Count:	12500
Date of Submission:	

I confirm that this assignment is my own work, is not copied from any other person's work (published/unpublished), and has not been previously submitted for assessment elsewhere.

E-SIGNATURE: Amar Chaitanya

DATE:

Table of Contents

Abstract 1

Chapter 1: Introduction 2

1.1 Overview 2

1.2 Purpose of the Research 4

1.3 Research's Problem Statement 5

1.4 Key Research Question 8

1.5 Scope of the Research 8

1.6 Significance of the Study 9

1.7 Organization of the Dissertation 9

Chapter 2 Literature Review and Conceptual Framework 11

2.1 Theoretical Foundations 11

2.2 Literature Review and Research Hypotheses 11

2.2.1 Entrepreneurial Orientation (EO) 11

2.2.1.1 EO and Digital Transformation (Technology Readiness) (DT-TR) 15

2.2.1.2 EO and Marketing Capability (MC) 19

2.2.1.3 EO and Customer Value Co-creation Behaviors (CVCCB) 23

2.2.1.4 EO and Firm Performance (Survival) (FP-S) 30

2.2.2 Digital Transformation (Technology Readiness) (DT-TR) 37

2.2.2.1 Digital Transformation (Technology Readiness) (DT-TR) and Co-creation Behaviors (CVCCB) 39

2.2.2.2 Digital Transformation (Technology Readiness) (DT-TR) and Marketing Capability (MC) 43

2.2.3 Customer Value Co-creation Behaviors (CVCCB) 47

2.2.3.1- Customer Value Co-creation Behaviors (CVCCB) and Marketing Capability (MC) 50

2.2.3.2 Customer Value Co-creation Behaviors (CVCCB) and Firm Performance (Survival) (FP-S) 53

2.2.4 Marketing Capability (MC) 59

In Table 12, Hughes and Morgan (2007) described the main marketing elements of pricing, product, distribution, communication (4 P's of marketing), selling, planning and implement of marketing strategies. This is proper to include them in this study to clarify terminologies in light of the current study. See Table 12, Marketing Capability (MC) Definition. 59

2.2.4.1- Marketing Capability (MC) and Firm Performance (Survival) (FP-S) 61

2.2.5 Firm Performance (Survival) (FP-S) 63

2.3 Conceptual Framework 67
2.4 Summary 68
Chapter 3: Research Methodology 71
3.1 Research Methodology 71
3.2 Measurements 73
3.3 Summary 82
Back Translation Methodology 82
Pilot Test 82
Sample Selection and Data Collection Procedure 84
Data Analysis 84
Chapter 4: Result and Analysis 86
Respondent Demographic 86
Gender 86
Age 87
Position 88
Mean and Standard Deviation Analysis 88
Model Measurement and Thresholds 99
Construct Reliability 101
Convergent Validity 101
Discriminant Validity 103
Model Fits 103
Partial Least Square-Structural Equation Model (PLS-SEM) 105
Chapter 5: Discussion and Recommendation 109
Demographic Frequency Analysis 109
Descriptive Analysis 109
Factors influencing Firm Performance Survival (FP-S) 113
Factors influencing Digital Transformation (Technology Readiness) (DT-TR) 114
Factors influencing Marketing Capability (MC) 115
Factors influencing Customer Value Co-creation Behaviors (CVCCB) 116
Theoretical implications 117
Managerial implications 117
Conclusion 118
Research Limitation and Future research recommendation 120
Reference 122
Appendix 140

List of Tables

Table 1 Entrepreneurial Orientation (EO) Definition 13
Table 2 Influence between Entrepreneurial Orientation (EO) and Digital Transformation (Technology Readiness) (DT-TR) 16
Table 3 Influence between Entrepreneurial Orientation (EO) and marketing capabilities (MC) 20
Table 4 Influence between Entrepreneurial Orientation (EO) and Customer Value Co-creation Behaviors (CVCCB) 26
Table 5 Influence between Entrepreneurial Orientation (EO) and Firm Performance Survival (FP-S) 31
Table 6 Digital Transformation (Technology Readiness) (DT-TR) Definition 38
Table 7 Influence between Digital Transformation (Technology Readiness) (DT-TR) and Co-creation Behaviors (CVCCB) 40
Table 8 Influence between Digital Transformation (Technology Readiness) (DT-TR) and Marketing Capability (MC) 44
Table 9 Customer Value Co-creation Behaviors (CVCCB) Definition 49
Table 10 Influence between Customer Value Co-creation Behaviors (CVCCB) and Marketing Capability (MC) 51
Table 11 Influence between Customer Value Co-creation Behaviors (CVCCB) and Firm Performance (Survival) (FP-S) 55
Table 12 Marketing Capability (MC) Definition 60
Table 13 Influence between Marketing Capability (MC) and Firm Performance (Survival) (FP-S) 61
Table 14 Firm Performance Survival (FP-S) Definition 65
Table 15 Entrepreneurial Orientation (EO) Cronbach Alpha and Sources 73
Table 16 Digital Transformation (Technology Readiness) (DT-TR) Cronbach Alpha and Sources 75
Table 17 Customer Value Co-creation Behaviors (CVCCB) Cronbach Alpha and Sources .. 78
Table 18 Marketing Capability (MC) Cronbach Alpha and Sources 79
Table 19 Firm Performance (Survival) (FP-S) Cronbach Alpha and Sources 81
Table 20 Internal consistency value of the Pilot Test 83
Table 21 Descriptive Statistics for Gender 87
Table 22 Descriptive Statistics for Age 87
Table 23 Descriptive Statistics for Position Rank 88
Table 24 Ranges of Mean Value Interpretation 89
Table 25 Entrepreneurial Orientation (EO) Descriptive Analysis (N = 237) 89
Table 26 Digital Transformation (Technology Readiness) (DT-TR) Descriptive Analysis (N = 237) 91
Table 27 Customer Value Co-creation Behaviors (CVCCB) Descriptive Analysis (N = 237) 94
Table 28 Marketing Capability (MC) Descriptive Analysis (N = 237) 96
Table 29 Firm Performance (Survival) (FP-S) Descriptive Analysis (N = 237) 98
Table 30 Structural Equation Modelling measurement and acceptable thresholds 100
Table 31 Overall Construct Reliability Loading and Convergent Validity 102
Table 32 Discriminant Validity 103
Table 33 Model fit 105
Table 34 Path Coefficient and Hypothesis Testing Results 107

List of Figure

Figure 1 Partial Least Square-Structural Equation Model (PLS-SEM).....67
Figure 2 Partial Least Square-Structural Equation Model (PLS-SEM).....106

FACTORS THAT INFLUENCED DIGITAL TRANSFORMATION FOR BUSINESS SURVIVALIN COVID-19 PANDEMIC: A CASE STUDY OF REAL ESTATE FIRMS IN THAILAND

Abstract

The Year 2020 marked history as the year when the deadly coronavirus pandemic, also known as Covid-19 outbreak or crisis, created havoc worldwide resulting in millions of human casualties and business bankruptcies across many industries. The real estate business in Thailand had not been spared. The purpose of this study was to investigate the relationship of a set of variables that included Entrepreneurial Orientation (EO), Digital Transformation (Technology Readiness) (DT-TR), Marketing Capability (MC), Customer Value Co-creation Behaviors (CVCCB) with Firm Performance Survival (FP-S) for real estate businesses in Thailand during the Covid-19 crisis. It involved organizational climates of change real estate organizations created as a function of the Perceived Survival and Subject Survival. This paper also aimed to understand how EO was related to the survival of an organization and its success. This research had shown a favorable association between the company's EO and its overall survival results. It contributed to literature by separating performances in a company from various roles and discussed how these functional performances were related to the components of the EO's relationship and organizational performance. In this study, the researcher utilized a survey questionnaire that was floated among real estate firms in Thailand generating 237 respondents. The hypotheses were tested using the structural equation modelling (SEM), specifically the one of partial least squares (PLS-SEM). The structural equation model PLS consisted of two keys, namely: the estimation model and the structural model. The model measurement reflected the relationships between the data measured and the latent variables. Among others, it is hoped this study could contribute to literature, to be useful in minimizing the digital divide among Thailand's real estate firms and contribute to the business sustainability and the growth of the industry.

Chapter 1: Introduction

1.1 Overview

The Covid-19 pandemic that triggered a world economic crisis had brought many businesses to their knees, some of which were not ready to handle the disaster. Many did not have crisis plans, and it took some time for them to set-up teams to confront the catastrophe. Thailand's real estate industry, for one, alongside, had experienced digital disruption and transformation challenges that had already been confronted with tight competition. Customers and the economy were critical factors in the survival of business. It was in this backdrop that this study had been conducted. It utilized the Entrepreneurial Orientation (EO) an essential ingredient for business survival especially during the global pandemic. Prior studies examined various internal and external factors relating EO with corporate performance (FP-S). Firm Performance Survival (FP-S) had been a missing link in the examination of the relationship. Using data from real estate firms in Thailand, this study explored the connection between EO and FP-S. In this context, it was assumed that the critical role of a primary driver in economic development was an essential source of innovation for strategic change.

Many successful organizations had looked forward managing the crisis. In the wake of the unwanted calamity, several companies in diverse industries teamed up together to find strength to weather the adverse effects of the crisis. Companies focused on how to get employees back to work while trying to stabilize the situation within their own means and capabilities. If there are any silver linings in the crisis, it would be the organizational lessons forged by the crisis process to help entrepreneurs prepare for similar troubles and to remain resilient. The concept of VUCA (volatility, uncertainty, complexity, and ambiguity) applied in business changed firms' mindset towards creativity. These factors helped to use innovation to perform and thrive in the midst of the pandemic. The VUCA model is an approach to prepare

companies to keep up with business downsides and survive in crisis. This theory revealed in the Covid-19 situation, there were rapid and steady changes in the way business managers and entrepreneurs managed their affairs during times of major unpredictability. The "V" in the VUCA stood for volatility. It described the form, speed, amount, and magnitude of change that was uncertain (J. Sullivan, 2012a). Volatility is a more common occurrence today than in the past. It was also argued that the level of financial turbulence has risen and lasts longer than in the past (J. Sullivan, 2012b). Digitization, connectivity, trade liberalization, global competition, and business model innovation are other sources of volatility in business crisis today (Reeves et al., 2012). The "U" means uncertainty (Slevin & Terjesen, 2011), or the lack of predictability in problems and events. These unpredictable times make it impossible for leaders to use past challenges and experiences as predictors of potential performance, making it highly improbable to forecast and challenging to resolve (J. Sullivan, 2012a). "C" means complexity. As HR thought-leader John Sullivan mentions (J. Sullivan, 2012a), an issue often includes multiple and hard-to-understand factors and mitigating factors (both inside and outside the organization). As regards the turbulence of transition and the lack of past predictors, this layer of complexity adds to the challenge of decision making.

Furthermore, in this present study, it was recognized that Resource-Based View (RBV) was essential to analyze and interpret the organizations' resources, to understand how organizations achieve sustainable competitive advantage. The RBV focuses on the concept of difficult-to-imitate attributes of the firm as sources of superior performance and competitive advantage(J. B. Barney, 1986; Prahalad & Hamel, 1989). Services that may not be quickly transformed or replaced and require extensive development cycles or a major improvement in the environment and conditions of the organization, are more likely to be unique to the business and thus more difficult for competitors to replace. According to Conner, performance variance between firms depends on its possession of individual inputs and capabilities (Conner, 1991). The aim was to demonstrate the correct use of the Entrepreneurial Orientation (EO) used to

construct and to estimate the firm's performance for survival (D. Miller, 1983). Real estate firms are considered entrepreneurial if it includes innovativeness, risk-taking, proactiveness, competitive aggressiveness, and autonomy, as suggested by Miller (D. Miller, 1983). EO is found to relate and reflect to positive relations with Digital Transformation (Technology Readiness) (DT-TR), Marketing Capability (MC), Customer Value Co-creation Behaviors (CVCCB) and Firm Performance for Survival (FP-S). In the 1970's Conceptual EO was introduced (Edmond & Wiklund, 2010) and generated a wide range of researches (Wales, 2016).

This study focused on the real estate businesses in Thailand and set out to examine possible EO models as a possible contributing factor to Firm Performance (Survival) (FP-S) during an economic crisis due to Covid-19. Consequently, a previous study revealed the EO's characteristics (Covin, Jeffrey & Slevin, Dennis, 1989). It was proposed that based on the environmental and organizational context, autonomy, innovation, risk-taking, proactivity, and competitive aggressiveness can vary greatly. This is in line with Gartner's perspective regarding new venture formation (Gartner, 1995). The idea that EO's dimensions should vary independently is consistent with entrepreneurs' previous work, who have proposed different marketing capability and customer value co-creation behaviors among real estate entrepreneurs (Schollhammer, 1982). For example, performance may provide positive benefits and also can change. Researchers should analyze in the future how entrepreneurship models operate in crises. Also, these dimensions can be combined to form new specific types of entrepreneurship. For example, Zahra and Covin (Zimmermann et al., 2018; Kreiser, 2006; S A Zahra & Covin, 1993; Shaker A. Zahra, 1993; Shaker A. Zahra & Covin, 1995) used the idea of a competitive approach for technology that combined the digital transformation concept.

1.2 Purpose of the Research

This paper aimed to understand how EO related to the survival of organizations and their success. It contributed to literature by separating performances in a company from various

roles and discussing how these functional performances were related to the components of the EO's relationship and organizational performance which applied primarily to real estate firms in Thailand. It explored a potential Entrepreneurial Orientation (EO) model identified as five-dimensional enhancements: autonomy, innovation, risk-taking, proactivity and competitive aggressiveness that had been useful to identify and define main entrepreneurial processes (i.e., the entrepreneurial and operations of a business). A variety of digital transformation concepts explained what entrepreneurship comprised of and the entrepreneurial orientation described how initial entry was recognized as a potential contributor to the survival of a company in Covid-19's economic crisis. Marketing innovation often provides a quick fix with innovative solutions focusing low-risk product modifications, extensions and design changes (Bennett & Cooper, 1981). Marketing capability can present seven distinct factors, namely: product development, pricing, channel management, marketing communications, selling, market planning, and marketing implementation. Market-related abilities were measured using existing scales (Cornelissen et al., 2003; Vorhies & Morgan, 2005) as organizational structures performed well relative to competitors, along with the conceptualization of skills (Bingham & Siegert, 2007; Ethiraj et al., 2005).

1.3 Research's Problem Statement

Problem

The spread of Covid-19 and the economic crisis as the consequence during the nine months when this study had been conducted forced most real estate markets across the Asia-Pacific region, especially Thailand, to address corporate problems in several ways. Understanding business trends, planning and re-positioning for the future was essential, whether one was a real estate occupant or an investor a factor in a firm's survival. Real estate organizations perceived the possibility of disruptive, digital transformation. In an environment where there is tight competition, economics and customers for business owners are essential.

So, much so in the Covid-19 era. During the time when this study was conducted, the economic crisis was anticipated to be under control in the second half of the year, at least by governments of gravely affected economies. However, there remained a lot of volatility from the entrepreneurs' point-of-view. Organizational agility was once desirable for Digital Transformation, conceptualizing market capabilities and Customer Value Co-creation Behaviors, and now, it is central to business survival.

Background

As earlier discussed, Thailand's real estate organizations experienced the disruptive, digital transformation, within a period of tight competition and development amidst economic meltdown brought about by the global pandemic. Economic resilience and support from fledging customer base were primary keys to survive the crippling outcomes of the global dilemma. Thus, the main driving force to improve the precarious situation relied on the better delivery of customer satisfaction, despite the restraining limitations. Never had been before in the Internet era was creativity and innovation took the forefront role to keep the economic wheel turning no matter where in the globe businesses were located. This study examined the relationships among Entrepreneurial Orientation (EO), Digital Transformation (Technology Readiness) (DT-TR), Marketing Capability (MC), Customer Value Co-creation Behaviors (CVCCB) and Firm Performance (Survival) (FP-S) using survey data from 237 entrepreneurs.

Relevance

Technology has made a considerable impact on a wide range of business sectors in the past decade. However, due to business complexities and centralized internal structures that evolved over the centuries, the real estate industry had become more resistant to transformation than many other domains. Real estate, however, had crucial industry-based problems, so change was then essential than ever. This thesis addressed the critical issues facing the real

estate industry in Thailand and how entrepreneurs and consumers could use distributed management as well as organization-by-technology relationships to accelerate the digital transformation in the Thai real estate industry. Technological innovation is indiscriminate in the wake of the changes it brings in the midst of the uncertainties in the real estate industry. Such improvements have become the latest standards for corporations, and there is no difference for commercial real estate. Although the effect of digital disruption varies across markets, a fundamental factor, technology, and more generally, intelligence, exists. The combination of information and technology has contributed remarkably to a competitive new real estate short and mid-prop-tech. To utilize information, the real estate industry will continue its struggle. This crisis would most likely continue to transform the Bangkok property market. While slower growth in many sectors, expected would be extensive infusion of new supply. With the rise in land prices and lack of freehold land in good locations, the competition for increasingly unique sites would still be intense. Any of the selling points in the industry today are smart homes, leasing management systems, and mixed-use developments. In this highly competitive market, new innovativeness, high risk-taking the winners will not be projects with the best room layouts or design, but those that can sell the right lifestyle at the right price. New retail supply and e-commerce will continue to grow despite the challenges from weak domestic consumption and the global retail landscape's rapid transformation. Retailers have to adopt new strategies and technologies to survive in this challenging retail environment. Economic improvement usually done by government policies and rising consumer confidence is the key to creating a new real estate business opportunity.

Objectives

The main purpose of this study was to study and find ways to make real estate businesses in Thailand work and help survive the recession due to the Covid-19 pandemic. The Covid-19 pandemic and the global economic downturn had brought fast-moving and volatile variables, some of which had not been prepared to cope with gloomy business and economic

prospects. On the other-hand many organizations had successfully pivoted within the crisis with unique strategies to boot. Entrepreneurs must consider and align with customer needs and reach as wide market base as possible. With changing technological factors, not to mention cost considerations, fast-moving products and services, along with their respective tight prices had been difficult to predict - underlying factors and variables that affect an organization's survival. More competitors in the market competed in terms of price and reach the point. Closer engagements, such as meeting the target customers as much as possible, were necessary to hopefully be the market leader, or if not, maximize, at the most, market share. These requirements could lead to the development and adjustment of working styles in the organization, not to mention to enable the organization and employees to work efficiently and achieve business goals for sustainable growth and even survival.

1.4 Key Research Question

From the preceding discussions, there was one single key research question that this study wanted to answer:

- What are the relationships among Entrepreneurial Orientation (EO), Digital Transformation (Technology Readiness) (DT-TR), Marketing Capability (MC), Customer Value Co-creation Behaviors (CVCCB) and Firm Performance (Survival) (FP-S)?

1.5 Scope of the Research

The scope of this study included the investigating the survival of the current Thai real estate business in the Covid-era and the economic crisis. Variables that were factors that made companies survive. Also, in this study, the sample data had been obtained between November 2020 and January 2021 with real estate organizations in Thailand as the subject respondents.

The 237 sample sets of data were collected and analyzed. The variables that correlated with each other to find out the psychographic connections among themselves.

1.6 Significance of the Study

There were several benefits that this study could provide, and these outcomes had been desired by the researchers of this study, namely:

1. To be able to apply the information studied in organizational management to business survival in times of a crisis.
2. To adjust management strategies appropriate and consistent with customers' working behavior and participation in the digital transformation era.
3. To find ways to differentiate products and services in order to meet the diverse needs of customers
4. To use the data obtained from studies for improving and developing any organization's management to survive in the midst of crisis

1.7 Organization of the Dissertation

The remainder of this dissertation is structured as follows:

- Chapter One presents the Introduction, Overview and Purpose of the Research, Statement and Key Problems, and the Scope of this Research.
- Chapter Two includes the Literature Review and Conceptual Framework. Chapter Two also primarily addresses the fields of EO that relate and reflect positive relations with Digital Transformation (Technology Readiness) (DT-TR), Marketing Capability (MC), Customer Value Co-creation Behaviors (CVCCB) and Firm Performance (Survival) (FP-S).
- Chapter Three covers the Research Methodology, Measurements, Sample Selection and Data Collection Procedure, Data Analysis.

- Chapter Four presents the Research Results and Discussion of this Research.
- Chapter Five presents the Summary of Research Findings, Conclusion and Recommendations.

Chapter 2: Literature Review and Conceptual Framework

2.1 Theoretical Foundations

Significant interest in management literature has been developed in the design of competitive advantages to increase market competitiveness and performance (Prahalad & Hamel, 1989; Wenerfelt, 1984, p. 171). Companies' resource-based strategies can focus on different aspects of competing, both tangibly and intangibly, or based on skills sets of their organizations (J. B. Barney, 1986; Wenerfelt, 1984; Hall, 1993, pp. 349–363). Availability of resources in organization is an important factor. Nowadays, gleaning from many studies, there is a correlation between the use of the company's resources and the customers' participation, enabling operators to adapt and survive in diverse economic situations. The heart of the business is the analysis and understanding of consumer behavior on its products and services that has changed tremendously through digital transformation. The perception of news and information data has also changed. Businesses must develop various functional areas to achieve competitive advantage (Prahalad & Hamel, 1989). Capabilities have been defined to be a combination of skills and collective learning, developed through organizational processes that ensure functional activities are integrated (Day, 1994, p. 38). Therefore, the organization's key challenge is to define those skills that will provide a sustainable competitive advantage. These characteristics must effectively replace old ones and should help the company's business if it has to plan well for its survival and resiliency (J. B. Barney, 1986; Day, 1994; Day & Wensley, 1988). Also, these capabilities must be unique, complex and tacit (Scholes&Johnson, 1999).

2.2 Literature Review and Research Hypotheses

2.2.1 Entrepreneurial Orientation (EO)

Lumpkin and Dess (1996) argued that Innovativeness represents one's "willingness to create growth and innovation in the implementation of new products/services, and the creation of new processes with creativity, technical leadership and R&D." Schumpeter is one of the

scientists who, first of all, stressed the importance of innovation in entrepreneurial processes and described innovation as new things to do or new ways to do conceptual frameworks (Schumpeter, 1947; Semenov & Gellner, 1974). Innovation is the most critical topic of entrepreneurship and the core component enterprise (Drucker, 1986) and (Lumpkin & Dess, 1996) A tendency for Risk-taking was described by Lumpkin and Dess (1996) as a representation of entrepreneurial company activities such as "risking heavy debt or making significant In an effort to achieve a high return by taking business opportunities, financial commitments." Risk-taking is a core factor that defines entrepreneurs from others because it can produce performance losses and disagreements (Morris, Kuratko, 2002). Still, it is the behavioral component of an EO and the pursuit of opportunity (Lumpkin & Dess, 1996). Proactiveness is characterized as finding new market opportunities. By predicting future market demands and opportunities, engaging in emerging markets, shaping the climate, and launching new products and brands before their competitors, companies can be proactive (Venkatraman, 1989). Proactive businesses perform better than competitors because they respond immediately to market trends (Hughes & Morgan, 2007), and become industry leaders with opportunities they find before their competitors (Lumpkin & Dess, 1996).

Competitive strategy describes an organization's tendency to challenge its competitors specifically and frequently to gain entry or enhance its position to exceed industry competitors in the market. It is also regarded as competitive aggressiveness in response to increasing rivalry, a rationale moves to counter threats from other firms that likewise come out of schemes to gain more market share or niche on one company's share of the overall customer base. Autonomy is characterized by a person, or a team based on developing a business idea or a vision and carrying it through to completion as an autonomous action (Lumpkin & Dess, 1996). Entrepreneurs are strong leaders, according to (Kelly & Zaman, 2014; Mintzberg and Waters, 1985) since their decision-making processes involve decisive and risky behavior. So, entrepreneurial autonomy is aligned with entrepreneurial independence, free action and

autonomous decision-making (Lumpkin & Dess, 1996; Zehir et al., 2015a). See Table 1, Entrepreneurial Orientation (EO) Definition.

Table 1 Entrepreneurial Orientation (EO) Definition

Author	Elements	Definition
(Astrini et al., 2020)	Innovativeness	a. Describes how strong companies' encouragement towards R&D and innovation. b. Gauges the number of new product lines or innovative process within the company. c. The nature of product or process changes (i.e. incremental or radical)
(Lumpkin & Dess, 1996)	Innovativeness	it represents 'willingness to create growth and innovation in the implementation of new products/services, and the creation of new processes with creativity, technical leadership and R&D considered it to be the core component of entrepreneurship in a similar way.
(Schumpeter, 1947; Semenov & Gellner, 1974)	Innovativeness	Schumpeter is one of the scientists who, first of all, stressed the importance of innovation in entrepreneurial processes and described innovation as new things to do or new ways to do conceptual frameworks
(Drucker, 1986)	Innovativeness	Innovation is the most critical topic of entrepreneurship.
(Fadda, 2018)	Innovativeness	Innovativeness and proactiveness also continue to exert a positive statistical influence on sales when controls for the human capital.
(Astrini et al., 2020)	Risk-taking	a. Willingness (or unwillingness) to engage in high-risk high-return projects. b. Explores and exploits available opportunity using numerous means.
(Lumpkin & Dess, 1996)	Risk-taking	A tendency for Risk-taking as a representation of entrepreneurial company activities such as "risking heavy debt or making significant in an effort to achieve a high return by taking business opportunities, financial commitments. Still, it is the behavioral component of an EO and the pursuit of opportunity

(Morris, Kuratko, 2002)	Risk-taking	Risk-taking is a core factor that defines entrepreneurs from others because it can produce performance losses and disagreements
(Fadda, 2018)	Risk-taking	When profit is the dependent variable, all the EO dimensions with the exception of risk-taking are positively and statistically significantly related to performance.
(Astrini et al., 2020)	Proactiveness	a. Tendency to try being the first in initiating new business concepts or launching new products. b. Aggressiveness in dealing with competitors
(Venkatraman, 1989)	Proactiveness	characterized as finding new market opportunities. By predicting future market demands and opportunities, engaging in emerging markets, shaping the climate, and launching new products and brands before their competitors, companies can be proactive
(Hughes & Morgan, 2007)	Proactiveness	Proactive businesses perform better than competitors because they respond immediately to market trends
(Lumpkin & Dess, 1996)	Proactiveness	Proactive become industry leaders with opportunities they find before their competitors
(Fadda, 2018)	Competitive	competitiveness did not turn out to significantly influence either sales or profit.
(Lumpkin & Dess, 1996)	Competitive	The competitive strategy describes an organization's tendency to challenge its competitors specifically and frequently to gain entry or enhance position to exceed industry competitors in the market to determine an organization to specifically and firmly challenge its competitors to gain access or improve function.
(Schumpeter, 1947)	Competitive	They also regarded competitive aggressiveness as a response from businesses to obtain a competitive market advantage.
(Fadda, 2018)	Autonomy	Autonomy seems to exert a significant positive effect only on profit.
(Lumpkin & Dess, 1996)	Autonomy	Autonomy is characterized by a person or a team based on developing a business idea or a vision and carrying it through to completion as an autonomous action.

(Kelly & Zaman, 2014; Lumpkin & Dess, 1996; Mintzberg and Waters, 1985; Zehir et al., 2015b)	Autonomy	Entrepreneurs are strong leaders, according to (Kelly & Zaman, 2014; Mintzberg and Waters, 1985) since their decision-making processes involve decisive and risky behavior, so entrepreneurial autonomy is aligned with entrepreneurial independence, free action and autonomous decision-making.
(Fadda, 2018)	Proactiveness and innovativeness	Proactiveness and innovativeness were found to be positively related to both performance measures considered in this work.
(Astrini et al., 2020)	(Lumpkin & Dess, 1996)Proactiveness, Innovativeness and Risk-taking	Corporate entrepreneurship (CE) consists of three dimensions, which are innovativeness, proactiveness, and risk-taking. It has an essential role in ensuring SMEs willingness to adopt technology in the 4.0 industrial era.

2.2.1.1 EO and Digital Transformation (Technology Readiness) (DT-TR)

To develop projects, often with unpredictable outcomes and taking chances, entrepreneurial organizations use their resources. These organizations do business to utilize what they do well by developing and launching new products and technologies to take them to new and promising directions. The degree of proactive approach that an organization demonstrates to its product-market unit is related to the will to innovate and generate new opportunities. Parasuraman (2000) argues that entrepreneurial orientation is a multi-dimensional framework enhanced by autonomy, innovation, risk-taking, aggressiveness and proactive approach.

The Technology Readiness construct is segmented into four variables (Pearce et al., 2010): optimism, innovativeness, discomfort and insecurity. The author shows that the first two refer to enablers of action, while the other two refer to inhibitors. On the one side, efficiency, productivity, and control are correlated with an idea. Innovativeness defined as the tendency of a person to be a participant in introducing new technologies. On the other side,

discomfort, the possible lack of control over technology or even the impression of being overcome are among the inhibitors. Insecurity is characterized by uncertainty or even ignorance of technology or the ability to use it effectively. See Table 2.

Entrepreneurial orientation is conceptualized by Pearce, Fritz, and Davis (D. Miller, 1983) as various behaviors linked to innovation, proactive approach, competitive aggression, risk-taking, and autonomy. Taking into consideration, the definitions of entrepreneurial orientation put forward by Miller (Russell Merz & Sauber, 1995; Lumpkin & Dess, 1996; Voss et al., 2005; Avlonitis & Salavou, 2007; Pearce et al., 2010) and also Pearce, Fritz and Davis (D. Miller, 1983), the concepts of Miller (Lumpkin & Dess, 1996; Parasuraman, 2000) show it, among others, as constructs that differentiate from each other but are partially or fully taken into account. People's propensity is referred to The Technology Readiness Index to use new goods and services related to optimism, innovation, discomfort, and insecurity from both conceptual facilitators and barriers. Together, all of them reflect the willingness of the consumer to communicate with technology (D. Miller, 1983). See Table 2.

Table 2 Influence between Entrepreneurial Orientation (EO) and Digital Transformation (Technology Readiness) (DT-TR)

Author(s)	Research Objective	Methodology	Main Findings
(L. Li et al., 2018)	how entrepreneurs of small and medium enterprises (SMEs) with inadequate capabilities and limited resources drove digital transformation in their companies	Method/ correlational and multiple	we used the capability perspective, which allowed us to shed new light on digital transformation and digital entrepreneurship. This perspective, unfortunately, also restricted us from addressing many other aspects, such as organizational structure and routines that probably had been adapted to the digital transformations in the SMEs. We look forward to exploring these aspects and their interactions with capability building in

			digital transformations and their implications for digital entrepreneurship in future studies.
(G. Gupta & Bose, 2019; R. Gupta, 2018; V. K. Gupta Gupta, 2015)	conduct a longitudinal study of two digital startups in the crowdfunding domain and identify the core attributes driving such transformation in digital ventures	Method/ correlational and multiple regression analysis	the business model transformation process for digital entrepreneurial ventures and examined their interactions with various components of a firm's business model. proposed by earlier studies (Osterwalder,
(Szalavetz, 2020)	investigates how digital transformation can assist factory economy digital entrepreneurs in their integration in the highly concentrated automotive global value chains.	multiple-item scale to measure	Digital entrepreneurship is defined as the setting up of entrepreneurial ventures with offerings (products, services or product–service systems) that embody, or are embodied in or enabled by digital technologies.
(Fernández-Pérez et al., 2012)	To discover the chief determinants of entrepreneurship, the process by which organizations renew themselves	Method/ correlational and multiple regression analysis	An entrepreneurial company engages in a creative product or market segment is committed to business risk and is the first to represent an innovative and proactive behavior, capable of competing aggressively with its competitors.
(Lumpkin & Dess, 1996)	Examines how the characteristics of CEOs' social networks	systematic random sampling/ regression analysis	• Organizations do business who want to leave what they do well by developing and launching new products and technologies to take a new direction. They forecast the needs and demands of the customer and get ahead of their competitors. • The degree of proactive approach that an organization demonstrates to its product-market unit related to the will to innovate and generate new opportunities.
(Voss et al., 2005)	To clarify the nature of the entrepreneurial orientation construct	method, Case Study	Entrepreneurial orientation is a multi-dimensional framework enhanced by autonomy, innovation, risk-

			taking, aggressiveness and proactive approach.
(Parasuraman, 2000)	To integrate stakeholder theory with the entrepreneurial orientation literature to explore relationships between distinct entrepreneurial behaviors and support from stakeholders with divergent interests	A longitudinal study / regression analysis	Emphasize the entrepreneurial orientation about how an organization can be committed to its actions, risk-taking, innovation, proactive approach, autonomy and competitive aggressiveness, leading to improvements in the company itself or in the market sector in which it is located.
(Parasuraman & Colby, 2015)	A Multiple-Item Scale to Measure Readiness to Embrace New Technologies	multiple-item scale to measure	• efficiency, productivity, and control are correlated with an idea. • Innovativeness defined as the tendency of a person to be a participant in introducing new technologies, discomfort, the possible lack of control over technology or even the impression of being overcome are among the inhibitors. • Insecurity is characterized by uncertainty or even ignorance of technology or the ability to use it effectively. • People's propensity is referred to The Technology Readiness Index to use new goods and services related to optimism, innovation, discomfort, and insecurity from both conceptual facilitators and barriers. Together, all of them reflect the willingness of the consumer to communicate with technology.
(Daniel Penz, Bianca Costa Amorim, Sabrina Nascimento, 2016)	To measure people's propensity to embrace and use cutting-edge technologies	Survey, SEM	TRI was developed to check this ability. The technology facility's dimensions move effectively, so any combination of factors that

			may promote or discourage the implementation of new technologies may apply
(Avlonitis & Salavou, 2007)	To analyze the influence of the Technology Readiness Index (TRI) in the entrepreneurial orientation (EO) for Brazilian small-business men	SEM-PLS	TRI is defined by four dimensions and sixteen indexes that evaluate populations' technical facilities.
(Pearce et al., 2010)	To looks beyond the entrepreneurial orientation (EO)-performance link and focuses on identifying EO profiles in product innovativeness dimensions of different performance potential.	One-way ANOVAs	EO is a significant influence on the success that shows the management potential of companies in which they operate proactively and aggressively to adjust the competitive environment more advantageously
(Rasmussan et al., 2001)	To investigate whether nonprofit, religious congregations can benefit from similar initiatives. We	Survey, SEM	various behavioral behaviors linked to innovation, proactive approach, competitive aggression, risk-taking, and autonomy. Taking into consideration

Therefore, the research hypothesis has been further developed below

H1: Entrepreneurial Orientation (EO) has positive influence on Digital Transformation (Technology Readiness) (DT-TR) of Real Estate firms.

2.2.1.2 EO and Marketing Capability (MC)

In line with the resource-based view of the RBV line of reasoning, EO only has potential value as a resource. Prior studies have tried to incorporate EO into real estate literature (Lumpkin & Dess, 1996; Oviatt & McDougall, 2005). EO's notion suggests that some firms are more willing than others to continually search for opportunities and solutions outside the realm of their current activities (Ziemke et al., 2009). Entrepreneurial companies with EO create, define, discover, and exploit opportunities frequently well ahead of their rivals (Day, 1994).

The rapidly rising complexity of the environment in the foreign market is compelling. There has been a substantial rise in the number of offerings and distribution networks. Everywhere, there are the forces of market fragmentation and rapid change. Marketing capabilities include the fast production and launch of new goods, rapidly reacting to any customer changes using pricing expertise and providing distributors with high support levels to deliver customer value (Day, 1994).

In this regard, this study shows that successful groups face uncertainty and risks when they enter international markets, aiming to display marketing capabilities to increase results. See Table 3, Influence between Entrepreneurial Orientation (EO) and marketing capabilities (MC).

Table 3 Influence between Entrepreneurial Orientation (EO) and marketing capabilities (MC)

Author(s)	Research Objective	Methodology	Main Findings
(Sok et al., 2017)	finds the support for the mediation effect of marketing capability on the EO-performance relationship.	Method/ correlational and multiple regression analysis	the mediation and moderation effects of marketing capability and marketing resources on the EO-performance relationship (moderated mediation model) suggests that greater insight into how EO influences small service firm performance can be achieved through considering in combination with other firm-level constructs (marketing capability and marketing resources in this study)
(Arunachalam et al., 2018)	identify a process by which a firm's entrepreneurial orientation impacts profits and show that it is dependent on marketing capabilities.	Method/ correlational and multiple regression analysis	The results uncovered using Bayesian conditional process modeling, are robust to alternate model specifications, endogeneity tests, and provide insights into the capabilities-based under-

			standing of entrepreneurism-marketing interface.
(Luiz dos Santos & Vieira Marinho, 2018)	Find evidence of a possible relationship between three constructs that are generally investigated separately: entrepreneurial orientation, understood as entrepreneurship on the organizational level; marketing capability, seen as a highly competitive factor for the organization; and business performance, highlighted as a focus of the entire organization.	Survey, SEM	The relationship between entrepreneurial orientation and marketing capability is positive, through the intermediate dimensions of innovation, proactiveness and risk-taking, used by firms' management, contributing to their efforts to research and manage the market, to develop products and services and to offer better prices.
(J. Barney, 1991)	Understanding what they do, and measuring the bottom-line consequences of their orientation to their markets.	method, Case Study	• Marketing capabilities can be seen as a firm's skills and competencies that help to understand changes in its markets, combined with those that enable the marketplace to function more effectively. • Marketing capabilities include the fast production and launch of new goods, rapidly reacting to any customer changes using pricing expertise, and providing distributors with high support levels to deliver customer value.
(Lumpkin & Dess, 1996)	Understanding sources of sustained competitive	method, Case Study	EO only has potential value as a resource. EO possession is required,

	advantage has become a major area of research in strategic management.		but not enough, condition for the delivery of value.
(Gomes et al., 2011)	To clarify the nature of the entrepreneurial orientation construct.	method, Case Study	Despite the remarkable attention in the literature about EO's theoretical connections to firm capabilities.
(Eisenhardt & Martin, 2000; Hughes & Morgan, 2007)	To focus on current practices related to extent of use, predictive value and availability of information	Survey, Regression Analysis	To gain a competitive advantage and obtain desirable performance, a firm needs to take appropriate strategic measures to capitalize on EO.
(D. Miller, 1983)	Entrepreneurial orientation tends to examine its three most common features focuses on dynamic capabilities and, more generally, the resource-based view of the firm.	Survey, Regression Analysis	The capabilities from which organizations' resources are deployed to clarify improvements in organizations' output rather than simple variation in organizations' help.
(Rasmussan et al., 2001)	To discover the chief determinants of entrepreneurship, the process by which organizations renew themselves.	Method/ correlational and multiple regression analysis	The debate about the practical implementation of these connections in specific types of firms is considerable.
(Lumpkin & Dess, 1996; Oviatt & McDougall, 2005)	how a founder has reduced equivocality in relation to support networks and reducing risks, especially in an international environment.	Survey, Case Study	Prior studies have tried to incorporate EO into real estate literature.
(Blesa & Diego, 2012; Sapienza et al., 2006)	To present of how the speed of entrepreneurial internationalization is influenced by various forces.	Survey, Case Study	EO's notion suggests that some firms are more willing than others to continually search for opportunities and solutions outside the realm of their current activities.
(Vorhies & Morgan, 2005)	To resolve this tension by positing that internationalization	Survey, Case Study	Firms with EO increase their ability to enhance core capabilities and

	has differing effects on firm survival and growth.		marketing capabilities play a major role in INVs
(Aspelund et al., 2007)	To identified as an important source of sustainable competitive advantage. One	Survey, SEM	Marketing capabilities result from a phase of integration designed to meet the firm's market-related needs.
(Martin & Javalgi, 2016)	To focus on the phenomenon of infant firms that operate internationally right from or close to inception	Survey, Case Study	The hypothesis that rapid international involvement due to the founding process's factors, such as EO, requires valuable capabilities for targeting customers is supported by research.
(Yi & Gong, 2013)	To moderate role of competitive intensity between EO and marketing capabilities for better INV performance.	Method/ correlational and multiple regression analysis	Suggestion that the relationship between EO and marketing capabilities determines how well these capabilities are aligned with the real estate sector

H2: Entrepreneurial Orientation (EO has positive influence on marketing capabilities (MC) of Real Estate firms.

2.2.1.3 EO and Customer Value Co-creation Behaviors (CVCCB)

Many issues discussed in this paper are founded on entrepreneurial co-creation principles, synthesizing from entrepreneurship's current academic opinions, stakeholder relationship management, and value co-creation to support new concepts and different research visions on entrepreneurial co-creation. In order to promote stakeholder-centered entrepreneurial projects and co-creation of value, many problems were identified from the entrepreneurship and related information sources that would have a significant effect on promoting the "entrepreneurial co-creation" concept. Firstly, to maintain the "entrepreneurial co-creation" concept, this segment aims to address these related questions from the entrepreneurship and adjacent knowledge sources, and their relations and mutual meaning.

Secondly, to highlight their relevance to the "entrepreneurial co-creation" concept, each of these related issues is addressed conclusively.

Moreover, a core focus of an entrepreneur's realigned dynamic organizational skills and a refined entrepreneurial approach is to plan and execute the idea of entrepreneurial co-creation in practice. To help the investors, entrepreneurial issues (perspectives and initiatives) are considered from entrepreneurship viewpoint and the corresponding information sources to explain the relations between these issues, and a refined entrepreneurial approach and diverse capabilities in contemporary entrepreneurship research and practice to support value co-creation. In general, the entrepreneurial insights and initiatives as defined in this list could be coordinated and oriented into entrepreneurial co-creation, focused on the influence of an entrepreneur's reorganized dynamic organizational capabilities and a refined entrepreneurial mindset associated investors. Indeed, as discussed earlier in this paper, following the direction of contemporary entrepreneurship research, one thing can be verified that future entrepreneurship research and practice cannot ignore the shared implications of the related issues of this list to contribute to the entrepreneurial effort’s stakeholder relationships, which is a current gap in this area. Because of the definition of "entrepreneurial co-creation" in this report, this list may or may not be comprehensive, followed by future studies on entrepreneurial co-creation to focus on other joint problems and areas underlying this conception. Since, in the contemporary business environment, entrepreneurs need to concern themselves with many cross-functional issues from finance and investment to management, marketing, and other relevant matters, including social, environmental, legal and geopolitical issues, analyzing such cross-functional issues from interdisciplinary perspectives would have an added advantage to influence the entrepreneurial views and initiatives towards entrepreneurial co-creation proactively. The rest of the sub-sections of this thesis further discusses and rationalizes the significance of various ideas with this study's aim.

As a multidimensional term consisting of two higher-order variables, each made up of multiple dimensions, this study conceptualizes customer value co-creation activity. Customer experience behavior and customer organizational commitment are two variables. This research also shows four dimensions of customer interaction behavior, namely: information seeking, information sharing, responsible behavior, and personal interaction. This study views customer citizenship behavior as consisting of feedback, advocacy, helping, and tolerance in a comparable context.

Theoretical framework on the partitioning of the individual performance environment. Task output requires planned and required behaviors for the successful delivery of service quality so that quality service will be incomplete without such behaviors. Customers who participate in service delivery should engage in some actions, similar to employees, such as information seeking, information sharing, responsible behavior, and personal interaction. In this report, they are categorized as customer participation behavior. For instance, clients seek data to perform their expected actions without which co-creation of value could not be completed.

More importantly, clients want service status details and terms of clarity. Customers need information about how to execute their duties as value co-creators and what they are supposed to do during a service experience and how they are expected to perform. Providing this data reduces consumer confusion about value co-creation with teams. For two primary reasons, clients are significant. Secondly, data leads to mistakes and thereby helps clients to understand and monitor their environments of co-creation. Secondly, finding knowledge helps clients master their position as co-creators of value and become fully integrated into the co-creation process. In a variety of ways, customers can seek details from the company.

Employees will not even begin or perform their duties if customers do not have essential information. For example, customers need to give the mechanic details about unusual noises

or vibrations to take the car in for repair. Or, consumers should have suitable quality and design details when ordering a cake for a special occasion. Patients should give proper details about their condition to the doctor for the doctor to make an accurate diagnosis. The quality of value co-creation can be weak if clients fail to provide correct information. Therefore, data sharing is the key to the performance of value co-creation.

Responsible behavior (Ennew & Binks, 1999) exists when clients understand as partial employees understand their duties and responsibilities (Yi & Gong, 2013). For instance, clients must respect the staff's instructions and be physically present for the effective co-creation of value. Few value co-creations develop in the service experience without the responsible actions of clients.

Personal interaction(Ennew & Binks, 1999) based on interpersonal customer-employee relationships, which are important for effective co-creation of value (Kelley, Donnelly, & Skinner, 1990). Kelley uses the term customer functional quality (Majidov, 2007; Teweldebrhan et al., 2008) to refer to the relationship between customers and workers, which involves interactional factors such as hospitality, kindness, and respect. See Table 4, Influence between Entrepreneurial Orientation (EO) and Customer Value Co-creation Behaviors (CVCCB)

Table 4 Influence between Entrepreneurial Orientation (EO) and Customer Value Co-creation Behaviours (CVCCB)

Author(s)	**Research Objective**	**Methodology**	**Main Findings**
(Tuan, 2017)	To investigate entrepreneurial orientation (EO) as the determinant and customer value co-creation behavior as the outcome of logistics performance.	Method/ correlational and multiple regression analysis	Innovativeness, the second component of EO, alludes to an organization's propensity to "engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products,

			services, or technological processes".
(Borman, 1993; Borman et al., 2001)	To explore the roots of the most commonly reported obstacles that the entrepreneurs face in the context of economic and political transition in	Survey, Case Study	The relationships of entrepreneurial growth: looking backward to move forward and theory and practice of entrepreneurship with dynamic organizational capabilities and a strengthened entrepreneurial orientation towards entrepreneurship co-creation. Developing an integrated approach into the growth of entrepreneurship research and practice since its actual development, to contribute to entrepreneurship research and practice, would be instrumental in reorganizing the dynamic organizational strengths and attitude of an entrepreneur to engage the significant activities in the co-creation process proactively.
(Yi & Gong, 2013)	To review for links between personality constructs and citizenship performance.	Survey, Case Study	The traditional management literature on the distinction between in-role and extra-role actions of employers parallels this categorization. Performance can be separated into task performance and

			contextual performance
(Kellogg et al., 1997)	To investigate and report a series of four studies leading to the development and validation of a customer value co-creation behavior scale.	Survey, PLS SEM	Cooperative and optional activities not required for the effective co-creation of value. In this respect, for successful service co-creation, consumers do not have to explain actions such as feedback, support, assistance, and acceptance.
(Kelley, Scott W; Donnelly, James H, Jr; Skinner, 1990; Morrison, 1993; Yi & Gong, 2013)	To explore how customer participation relates to satisfaction through two frameworks, one empirically derived, the other conceptually developed.	Qualitative Survey	Customers seek knowledge to explain service criteria and reach other cognitive needs.
(Lengnick-Hall, 1996; Yi & Gong, 2013)	To suggest that by seeking information, organizational newcomers can facilitate the socialization process.	Method/ correlational and multiple regression analysis	Customers need to understand the nature of service and its functions in the process of value co-creation just as workers learn the role, position awareness, and behaviors required to engage as organizational members and request information directly from another person or they may track the actions of experienced customers to obtain information.
(Ennew & Binks, 1999; Yi & Gong, 2013)	To adopt or what quality experts an organization follows, managing for quality and	method, Case Study	Customers should have information, such as knowledge for value co-creation processes, for

	competitive advantage means.		efficient value co-creation and ensure that staff have the service that matches their personal needs by exchanging knowledge with staff.
(Bettencourt, 1997; Yi & Gong, 2013)	To examines the issue of participation in service relationships and proposes a tentative model of the relation- ships between participation, quality of delivered service, over- all satisfaction, and customer retention.	Method/ correlational and multiple regression analysis	Customers can ensure that staff have the service that matches their personal needs by exchanging knowledge with staff
(Lengnick-Hall et al., 2000; Yi & Gong, 2013)	To understand of how firms can motivate their customers as partners in service delivery.	Survey, Case Study	Customers need to be cooperative for effective value co-creation between themselves and employees, following rules and regulations and accepting employee directions
(D. Miller, 1983)	To examine customer orientation from the customer's point of view. Customers	Method/ correlational and multiple regression analysis	Value co-creation occurs in a social atmosphere in a service context; the more friendly, polite, and supportive the social environment is, the more likely clients are to participate in co-creation of value

H3: Entrepreneurial Orientation (EO) has positive influence on Customer Value Co-creation Behaviors (CVCCB) of Real Estate firms.

2.2.1.4 EO and Firm Performance (Survival) (FP-S)

Previously, Lumpkin and Dess (1996) described entrepreneurial orientation as an entrepreneurial company that engages in product-market innovation, undertakes relatively risky projects, and is first to come up with proactive innovations that enable them to beat their competitors. To define and evaluate entrepreneurship, Lumpkin and Dess proposed three dimensions, namely: innovativeness, proactiveness, and risk-taking. Innovation represents an organization's tendency to engage in and encourage new ideas, innovation, experimentation, and creative processes that can lead to new products, services, or technological processes (Jantunen, 2005). At the same time, proactive personality is defined as looking for new opportunities that may or may not be aligned with the original model of operations, launching new products and brands ahead of the competition, competitive strategies. Throughout many different studies, EO has been found to affect a firm’s performance positively. All of these studies use EO as a complicated measure. They suggest that in very different ways, EO has a similar effect on company performance: in other countries, different markets, and for different types of businesses. In different markets, such as the hospitality sector (Jantunen, 2005) and manufacturing industries (J. Zhang & Duan, 2010).

Concerning customers and their expectations for new products, environmental turbulence refers to a business environmental capability. Better environmental turbulence shows that customers' brand expectations change over time and become more price-sensitive (Kuivalainen et al., 2012). When economic growth is more reliable, and businesses can utilize their resources to achieve optimal performance, stable environmental turbulence occurs. Access to information can lead the preferences of consumers to change dramatically. For example, the Blue Ocean environment refers to more unpredictable environmental turbulence and suggests that more significant difficulties disrupt firms' ability to identify customer indicators and better understand customer needs (D. Miller, 1983). There are theoretical hypotheses that emphasize the effect of EO on firm output (FP). There has recently been a

conflict over the dynamic relationship between EO and FP. Some reliable scholars argue that there is a positive relationship between EO and FP, while other researchers argue a negative relationship between EO and FP. However, after EO's definition developed, it has generally been accepted that there is a positive relationship between EO and FP (W. Y. Wu et al., 2008).

Innovativeness is a key element of EO that plays an important role in improving FP to differentiate the products from those of competitors. This idea will enhance the firm's opportunity to communicate in product development and change development standards (Runyan et al., 2008). In relation to this, some other researches suggest that EO has no effects on FP due to the impact of other independent variables (Andersén, 2010), and the effect of potential moderators such as the period of the business cycle (Pratono & Mahmood, 2015; Barney, Jay B., Busenitz, 1997; Grant et al., 1998; M. F. Porter, 1980). In the literature, the relationship between the development/maintenance of a competitive advantage performance has been well established, for example (D. Miller, 1983). A positive relationship between EO and performance is also hypothesized in this study, building on the other research study's strength. See Table 5, Influence between Entrepreneurial Orientation (EO) and Firm Performance Survival (FP-S).

Table 5 Influence between Entrepreneurial Orientation (EO) and Firm Performance Survival (FP-S)

Author(s)	**Research Objective**	**Methodology**	**Main Findings**
(Aloulou, 2018)	To study the direct influence of Entrepreneurial orientation (EO) on learning orientation (LO), considering the latter as the mediating variable in the relationship between EO and firm performance (FP). The	Survey, Regression Analysis	the influence of EO on FP may be mainly indirect – through the mediation of learning orientation. Entrepreneurial firms (from small-to-large ones) must foster organizational learning capabilities in order to maximize the effect of EO on firm performance

(Lumpkin & Dess, 1996)	To discover the chief determinants of entrepreneurship, the process by which organizations renew themselves.	Method/ correlational and multiple regression analysis	There has recently been a conflict over the dynamic relationship between EO and FP. Some reliable scholars argue that there is a positive relationship between EO and FP, while other researchers argue a negative relationship between EO and FP. However, after EO's definition developed, it has generally been accepted that there is a positive relationship between EO and FP.
(D. Miller & Friesen, 1978)	To clarify the nature of the entrepreneurial orientation construct.	Method, Case Study	Innovation represents an organization's tendency to engage in and encourage new ideas, innovation, experimentation, and creative processes that can lead to new products, services, or technological processes.
(Jantunen, 2005)	To understand the strategy making process by examining the organizational and environmental context	Method, Case Study	The level to which managers are prepared to make large and expensive resource commitments with an acceptable risk of negative effects is described as risk-taking.
(Hughes & Morgan, 2007; Wiklund & Shepherd, 2005)	To present the concept of the firm’s absorptive capacity as a multidimensional, dynamic construct consisting of capabilities for	Survey, Regression Analysis	The effect of EO on performance is seen in different kinds of organizations, such as service organizations and manufacturing organizations.

	organizational knowledge processing		
(Andreas Rauch, Johan Wiklund , G. T. Lumpkin, 2009; Rezaei & Ortt, 2018; Rosenbusch, Nina; Rauch, Andreas; Bausch, 2013)	Entrepreneurial orientation tends to examine its three most common features focuses on dynamic capabilities and, more generally, the resource-based view of the firm.	Survey, Regression Analysis	Small companies and new or founded companies.
(J. Barney, 1991; Penrose, 1959)	To explore the magnitude of the EO-performance relationship and assessed potential moderators affecting relationship.	Method, Case Study	Discovered in a meta-analysis that EO has a reasonable positive impact on firm performance.
(M. E. Porter, 1990)	To Understand sources of sustained competitive advantage	Method, Case Study	Resource-based view (RBV) and contingency theory describe the methods used by organizations to manage their EO to deliver a good performance. RBV's classical theory argues that companies need to collect more capital to achieve their objectives. Assets, capabilities and knowledge can include these resources.
(Schumpeter, 1942)	To understand the competitive advantage of nations.	Method, Case Study	The RBV suggests that organizations with valuable, unique, inimitable and non-substitutable resources are perceived to have competitive advantage capabilities.
(Lee & Kotler, 2009)	To investigate method of economic change from	Method, Case Study	Innovation may change the current economic structure;

	Capitalism, Socialism and Democracy.		it is often necessary to destroy its prior financial system to survive.
(Andersen et al., 2002)	To understand Social Marketing Approach Versus Traditional Solutions.	Method, Case Study	Small companies may grow their organizations with valuable resources with a niche- market orientation.
(Tessarolo et al., 2010)	To focus considerable attention on time-varying volatility and the development of new tools for volatility measurement, modelling and forecasting. These	Method, Case Study	Big corporations are promoting research & development projects, enhancing incentive mechanisms and increasing workplace innovation. One traditional resource of small and medium-sized enterprises is the intimate knowledge of customers.
(Shane, 2012)	To understand nature of organizational discourse is theoretically underpinned by the concept of self-serving attributions.	Survey, Regression Analysis	In organizations with niche products or services, customer awareness usually happens and proves the competitiveness to obtain maximum performance.
(J. Zhang & Duan, 2010)	To examine the impact of the 2010 AMR Decade Award article on the entrepreneurship field over the past ten years,	Method, Case Study	Entrepreneurial opportunities apply to a collection of conditions that make it possible to merge resources and produce profit; business ideas are defined as entrepreneurs' methods to recombine these resources to gain an opportunity.
(Kuivalainen et al., 2012)	To examine the role of responsive market orientation and proactive market orientation in	Survey, Regression Analysis	Customers and their expectations for new products, environmental turbulence refers to a

	product innovation performance directly and indirectly via innovativeness.		business environmental capability. Better environmental turbulence shows that customers' brand expectations change over time and become more price-sensitive.
(Andersén, 2010; Moreno & Casillas, 2008; Simon et al., 2011)	To present an overview of the conceptual frameworks and concepts with which the research on internationalization patterns of small and medium-sized enterprises (SMEs) should be conducted.	Method, Case Study	The Blue Ocean environment refers to more unpredictable environmental turbulence and suggests that more significant difficulties disrupt firms' ability to identify customer indicators and better understand customer needs.
(Kreiser et al., 2013; Nandamuri & Gowthami, 2013)	To critically analyze the assertion that there is a statistically significant relationship between EO and performance.	Survey, Regression Analysis	This argument concerning EO with more basic elements, such as firm growth and sales growth is supported by the following evidence-based studies. This different background can lead to a negative or important relationship between the EO and the FP.
(Kreiser et al., 2013)	To utilize a sample consisting of 1,668 small-to-medium sized enterprises (SMEs) in nine countries across 13 different industries to provide a finer-grained analysis of the EO-performance relation- ship.	Survey, Regression Analysis	Another disadvantage figure can emerge from the non-linear relationship between EO and FP (W. Y. Wu et al., 2008). There is a powerfully positive relationship between EO and small firms' income.
(Andersén, 2010; Barney, Jay B.,	To explore how a firm's operational	Survey, Regression Analysis	Innovativeness is a key element of EO

Busenitz, 1997; Grant et al., 1998; M. F. Porter, 1980; Pratono & Mahmood, 2015; Runyan et al., 2008)	mode can reinforce the advantages		that plays an important role in improving FP to differentiate the products from those of competitors. Enhance the firm's opportunity to communicate in product development and change development standards.
(Barney, Jay B., Busenitz, 1997; D. Miller, 1983; M. F. Porter, 1980; Teece et al., 1997; Wenerfelt, 1984)	To critically analyze the assertion that there is a statistically significant relationship between EO and performance.	Survey, Regression Analysis	In relation, some other research suggests that EO has no effects on FP due to the impact of other independent variables and the effect of potential moderators such as the period of the business cycle.
(Naidoo, 2010a)	To further explore differences between entrepreneurs and managers in large organizations.	Method/ correlational and multiple regression analysis	Innovativeness, risk-taking, proactiveness, competitive aggressiveness, and autonomy, as suggested by Miller which contributes to firm performance
(Liebowitz & Margolis, 1995; Nichol et al., 1995)	To examined manufacturing SMEs were competitor oriented and had good inter-functional capabilities.	Survey, PLS SEM	The main article in our conceptual model is therefore based on established literature, investigating the relationship between Entrepreneurial Orientation (EO) and performance.

H4: Entrepreneurial Orientation (EO) has positive influence on Firm Performance (Survival) (FP-S) of Real Estate firms.

2.2.2 Digital Transformation (Technology Readiness) (DT-TR)

The entrepreneur faces environmental difficulties to start a company and, as founded by Margolis (Sanders & Nee, 2016), relocating entrepreneurs begin new businesses in other countries to accelerate their financial development and guarantee their self-employment (Wiklund & Shepherd, 2008). The lack of studies aimed at examining how entrepreneurs reach the market was described by Wiklund and Shepherd (D. Miller, 2011). The authors suggest that more comprehensive related positively to their entrepreneurial orientation (EO) are required, considering the levels of analysis and variants that can help understand the direction. Similarly, Miller demonstrates that studies based on immigrant entrepreneurs' entrepreneurial orientation are essential because the methodology is substantially different in that context (Daniel Penz, Bianca Costa Amorim, Sabrina Nascimento, 2016). He also explains that the more specific the context is, the more reliable and acceptable the knowledge collected is to describe the phenomenon examined. Theoretical and empirical results can be specific to studies on particular topics (Parasuraman, 2000). This study aims to analyze the impact of Technology Readiness (TR) on the entrepreneurial orientation (EO) for real estate companies in Thailand. Optimism and innovativeness are drivers of technology readiness, while discomfort and insecurity are inhibitors of these four dimensions. Additional analyses found that respondents identified as high, medium, or low often differed significantly (and in the predicted direction) in terms of their use of high-technology products and services based on their ratings on each of these dimensions. Therefore, the four dimensions of the TR scale appeared to be strong predictors of technology-related behavior, in addition to being reliable as shown by the high alpha values (Parasuraman, 2000). See Table 6, Digital Transformation (Technology Readiness) (DT-TR) Definition.

Table 6 Digital Transformation (Technology Readiness) (DT-TR) Definition

Author	Elements	Definition
(Parasuraman, 2000)	Optimism	good perception of technology and a perception that technology provides greater power, stability, and productivity for people.
(Parasuraman, 2000)	Innovativeness	desire to be a leader in technologies and a subject matter expert. (Parasuraman,
2000)	Discomfort	comprises of perception and a sense of being confused by a lack of control over technology.
(Parasuraman, 2000)	Insecurity	technology's apprehension and doubts towards an ability to operate correctly.
(Zeithaml et al., 2002)	Optimism and Innovation	Positive attributes • Optimism refers to a positive view of technology and the belief that technology provides additional control, flexibility, and efficiency for people. • Innovation refers to a desire to be a pioneer in technology and a thought leader.
	Discomfort and Insecurity	Threats attributes • Discomfort consists of perception and a sensation of being confused by a lack of control over technology. • Insecurity involves technology's distrust and doubts regarding its ability to operate properly.
		Optimism and innovation, while discomfort and insecurity are competitors, are drivers of TR. Positive and negative attitudes about technology can live side by side, and individuals can be positioned from a highly positive attitude at one end to a strongly negative attitude at the other in a technology perception scale.

2.2.2.1 Digital Transformation (Technology Readiness) (DT-TR) and Co-creation Behaviors (CVCCB)

The TR of customers has a positive influence on their expectations of the quality of their online service and online behaviors. Still, there is little experimental finding and misunderstanding (L. G. Miller et al., 2007).

In co-creation behaviors (CVCCB), customers often incorporate physical, social, and cultural opportunities as they communicate with each other, in addition to their relationship with businesses. Therefore, as they connect, customers combine resources and, by doing so, co-create exchange value during relationship development and use-value during consumption. In both face-to-face environments and online channels, CCVCC activities are observed. Face-to-face CCVCC involves any standard service experience characterized by other clients' powerful proximity (Brodie et al., 2011). C2C connections have been developed into virtual value networks with the rise of social media and smartphones (Rihova et al., 2013, p. 577) such as Facebook, Twitter, LinkedIn, and Instagram are channels for value co-creation through which participants communicate with each other (i.e., individual users, businesses, etc.) and engage in the process of value co-creation. In such ecosystems, since value depends on the interaction of other users and their experiences, a single user's behavior does not add value to the service provider or the individual user. Customer experiences have become the fundamental process of value co-creation across social networking networks and mobile apps. Although the firm plays a major role in the early design and marketing phases of a value network, as more and more consumers continue to use the network, the primary role transfers to customers. Explaining the modality of C2C interactions, Liljander et al. (2006) as well as Zeithaml et al. (2002) conceptualized the incorporation of C2C resources in four co-creation layers: detached layer of the dyadic relationship between two known clients; social bubble signifying C2C interactions within known groups such as families and friends; temporary communities representing C2C relationships in unknown clients ; continuous neo-tribes that belong to a

particular notice, such as the Volkswagen brand group, tie customers together. Some studies have helped explain the contexts, methods, and implications of CCVCC by expanding the nomology of C2C interactions (Liljander et al., 2006; Zeithaml et al., 2002). See Table 7, Influence between Digital Transformation (Technology Readiness) (DT-TR) and Co-creation Behaviors (CVCCB.

Table 7 Influence between Digital Transformation (Technology Readiness) (DT-TR) and Co-creation Behaviours (CVCCB)

Author(s)	Research Objective	Methodology	Main Findings
(E. M. Zhang, 2010a)	To understand the factors affecting customers' attitudes towards these SSTs and their adoption behavior. Technology readiness (TR)	Survey, Regression Analysis	• TR of customers has a positive influence on their expectations of the quality of their online service and online behaviors. Still, there is little experimental finding and misunderstanding. • TR's role in explaining individuals' online behaviors may be minor.
(L. G. Miller et al., 2007)	To integrate technology readiness (TR) into the technology acceptance model (TAM) in the context of consumer adoption of e-service systems, and theorizes that the impact of TR on use intention is completely mediated by both perceptions of usefulness and ease of use	Survey, Regression Analysis	The limited awareness of TR reflects the need to evaluate TR in a bigger framework.
(Brodie et al., 2011; Zadeh et al., 2019)	To develop a meta-language incorporating a	Method, Case Study	• Customers often incorporate physical, social,

	number of concepts, including „co-creation" and „resource integration" to express its foundational premises.		and cultural opportunities as they communicate with each other, in addition to their relationship with businesses. • Customers combine resources and, by doing so, co-create exchange value during relationship development and use-value during consumption. In both face-to-face environments and online channels, CCVCC activities are observed. Face-to-face CCVCC involves any standard service experience characterized by other clients' powerful proximity.
(Finsterwalder & Kuppelwieser, 2011)	To examine the use of these terms, and how they relate to specific business relationships and marketing practices.	Method, Case Study	• C2C connections have been developed into virtual value networks with the rise of social media and smartphones such as Facebook, Twitter, LinkedIn, and Instagram are channels for value co-creation through which participants communicate with each other. • describe the idea of customer interaction and its

			sub-processes that makeup value development in brand communities (i.e. sharing, learning, advocating, socializing, and co-developing)
(Hibbert et al., 2012)	To investigate not only interactions between companies and customers in business-to-consumer settings	Method, Case Study	Describe the context of C2C social interactions that enable a group of clients to work together to complete the tasks needed.
(Bagozzi & Dholakia, 2006)	To support customer learning, then, is a pressing new challenge for firms that recognize customers engage in resource integration in the course of their value-creating processes.	Method, Case Study	Concentrate on the effectiveness of customer resource integration, which they find to depend on the features of customer learning contexts and the interactive elements of the learning process (i.e. setting goals, orientation, evaluation, execution).
(Hunt & M.Morgan, 1995; Varadarajan & Clark, 1994)	To investigate behavior and determinants of the behavior of small group brand community participants	Survey, PLS SEM	Drawing from brand literature, investigate brand value development among a community of riders by mapping interactions among riders

H5: Digital Transformation (Technology Readiness) (DT-TR) has positive influence on Customer Value Co-creation Behaviors (CVCCB) of the Real Estate firms.

2.2.2.2 Digital Transformation (Technology Readiness) (DT-TR) and Marketing Capability (MC)

Marketing has a significant influence on how these strategies are developed and how resources are distributed to implement these strategies as one of the organization's main functions (Kohli & Jaworski, 1990; Narver et al., 1998). Where firms display stronger entrepreneurial, market and strategic orientations, the marketing function will be approached differently. Under turbulent environmental factors, marketing practices are becoming increasingly important. Companies should focus on incremental improvements to their methods of understanding customer needs under usual conditions. Alternatively, marketers need to put more time on predicting and reacting immediately to competitors' movements. When markets become relatively turbulent, entrepreneurs must take responsibility for integrating higher levels of entrepreneurship into all dimensions of organizations' marketing activities. Turbulence causes sellers and consumers alike to panic, confusion and doubt. Still, it also forces businesses to make faster decisions and opens up a whole range of new products and opportunities for the market. It is extremely important to find innovative ways to build customer relationships while exploring new market segments. The firms' approach to marketing is often affected by internal organizational variables, i.e., Entrepreneurial orientation and other organizational variables, business orientation and strategic orientation.

In addition, many other organization features are also reported to affect marketing decisions, such as its structure and task routinization. Efforts in Entrepreneurial Marketing are projected to impact both financial and non-financial results. Financial results include increased profitability, higher sales and growth rates. See Table 8, Influence between Digital Transformation (Technology Readiness) (DT-TR) and Marketing Capability (MC).

Table 8 Influence between Digital Transformation (Technology Readiness) (DT-TR) and Marketing Capability (MC)

Author(s)	Research Objective	Methodology	Main Findings
(Jafari-Sadeghi et al., 2021)	To addresses the effects of digital transformation on value creation through the study of technology entrepreneurship and technological market expansion. This is particularly important since both of these concepts are part of the dynamic capabilities that help in embracing digital innovation at a national level.	Survey, Regression Analysis	Entrepreneurship has been significantly transformed over the last decade. Key to such a transformation is the dynamics of digital technologies, platforms and infrastructures, and the way in which these have changed how value is created.
(Jaworski & Kohli, 1993; Kohli & Jaworski, 1990)	Effort to develop a framework for understanding the implementation of the marketing concept.	Method, Case Study	Fundamental approach to understanding markets. It represents the implementation of the marketing concept.
(Narver&Slater, 1990; Slater & Narver, 1994, 1995)	To examine a number of these propositions empirically, concluding that the market orientation - business performance relationship is situation-specific subject to various moderating influences.	Survey, Pearson correlation	Cultural orientation that focuses the company's efforts on the needs of the market
(Slater & Narver, 1998)	Linkage between a market orientation and performance	Survey, Regression Analysis	A market-oriented organization can generate, distribute, and respond more effectively than less market-oriented competitors to information about market competition and market trends.

(Day, 1994; Hunt & M.Morgan, 1995; Varadarajan & Clark, 1994)	presents the results of a study that examines the role of marketing capabilities in innovation-based competitive strategy.	Survey, Regression Analysis	The organization does this by learning what customers need, creating and optimizing the resources and processes required to produce the value they want and adapting those processes that generate value as market conditions shift.
(Achrol, 1991; Webster & Hackley, 1997)	how customer power contributes to the failure of leading firms during a period of industry discontinuity.	Method, Case Study	The market-oriented organization looks to create potential products that will tap potential opportunities beyond current customer demands, thereby helping to improve the firm's market value over time.
(Deshpandé & Farley, 1999; Sanchez et al., 1999)	To explain key macro and micro phenomena better than competition theory	Method, Case Study	An organization needs to develop the capabilities to produce, transmit, and respond to market intelligence and act on this knowledge to use these processes as the basis for competitive advantage.
(Amato et al., 2002)	To examine teaching effectiveness in distance leaming.	Survey, Regression Analysis	Higher levels of environmental turbulence force businesses to demonstrate more flexibility and adaptability, to have high levels of innovation and entrepreneurship, and to demonstrate a high level of strategic orientation in approaching competitors and

			customers. Conservative, reactive, willing to take risks proves to be a competitive liability under such conditions.
(Weerawardena, 2003a, 2003b)	To examine how organizational dimensions, including corporate culture and market orientation, affect performance in major Indian firms. The	Method, Case Study	In the form of a variety of value packages for various market segments, marketing efforts have to become more personalized and exclusive, with more customer choice.
(Day, 1994; Menon & Varadarajan, 1992; Vorhies, 1998)	To explore some of the economic effects of public information that arise whenever public information serves the dual role of conveying fundamental information as well as serving as a focal point for better coordination. More precise public information is a double-edged tool. While	Method, Case Study	In short, organizations are allowed to join in more opportunistic, proactive, risk-assuming, innovative, customer-centric, leveraged, and value-creating marketing efforts.
(Vorhies & Harker, 2000; Vorhies & Morgan, 2005)	To examine the role of marketing capabilities in innovation-based competitive strategy.	Method, Case Study	Entrepreneurial orientation is claimed to positively affect innovative firms' marketing capabilities.
(Day, 1994; Hunt & M.Morgan, 1995; Qureshi & Mian, 2010)	propose a framework for circumscribing the concept of knowledge utilization	Method, Case Study	The processing capabilities of market information influence and sometimes limit marketing ability decisions. Strategy for the business unit directs product market selection.
(X. Li et al., 2017; Xu et al., 2018)	To address the capabilities needed	Survey, Regression Analysis	Conducted a report on Fortune 500

	to become market-driven and the performance advantages accruing to firms possessing these capabilities. One		companies and found that the business strategy, organizational structure and data processing capabilities of an organization influence its marketing capabilities.
(Jaakkola et al., 2015)	To show that entrepreneurial orientation, market orientation and strategic orientation of the firm are influenced by the external environment and significantly impact on the marketing capabilities.	Survey, PLS SEM	Due to the significant role of marketing capabilities in selecting product markets and their ability to influence the implementation of market strategies, it was expected that the firm's marketing capabilities would have a positive effect on firm performance.

H6: Digital Transformation (Technology Readiness) (DT-TR) has positive influence on Marketing Capability (MC) of Real Estate firms.

2.2.3 Customer Value Co-creation Behaviors (CVCCB)

A popular recent study subject in the hospitality industry is customer value co-creation (Grönroos & Voima, 2013). Co-creation is a valuable customer behavior for service providers (Stuart Read, 2016). In the food and beverage industry, value creation refers to creating value-in-use by a customer's (Yi & Gong, 2013). Ranjan and Read (Revilla-Camacho et al., 2015) argued that two key elements, namely coproduction and value-in-use, are involved in value co-creation.

Customers may demonstrate specific behaviors in the co-creation of value, which Yi and Gong (Shamim et al., 2016; Yi & Gong, 2013) classified as customer participation and customer citizenship behaviors. According to Revilla-Camacho, customer participation

behaviors include information seeking, information sharing, responsible behavior, and personal interaction (Bettencourt, 1997). For example, consumers provide and communicate information to create service value in the interaction process with food and beverage employees. Customer citizenship behaviors are clients' voluntary and extra-role behaviors that give the organization with exceptional value but are not necessarily required for co-creation of value (Revilla-Camacho et al., 2015). They are related to service enhancement recommendations from consumers, promoting other customers, and disseminating positive word-of-mouth (Yen et al., 2020). Responses, support, assistance, and acceptance consist of consumer citizenship activities (Yi & Gong, 2013). For example, a client actively recommends a restaurant to friends and family members after having a positive restaurant dining experience (Yi et al., 2011).

Customer value's co-creation behavior includes two higher-order variables: the behavior of customer engagement and action of customer participation (Yi & Gong, 2013). Customer engagement behavior, which is seen as appropriate (in-role) behavior necessary for effective co-creation of value (Tuan, 2017), consists of seeking information, sharing information, responsible behavior, and personal interaction. The benefit of customer co-creation behavior. A 29-item scale from Yi and Gong (X. Li et al., 2017; Xu et al., 2018) was used in their value co-creation behavior to assess customer experience behavior and customer organizational citizenship behavior. The task affecting consumers involves four dimensions: seeking information (questioning others for details about what this service provides), sharing information (recommendations supplied so that the employee may fulfil his or her duties), responsible behavior (providing the responsibilities of the company), and personal interaction (be kind and polite of customers and personal interaction (be courteous of employers) (Jaakkola et al., 2015). See Table 9, Customer Value Co-creation Behaviors (CVCCB) Definition.

Table 9 Customer Value Co-creation Behaviours (CVCCB) Definition

Author	Elements	Definition
(Tynan et al., 2010)		A popular recent study subject in the hospitality industry is customer value co-creation
(Nahapiet & Goshal, 1998; Wenpin Tsai, 1998)		Co-creation is a valuable customer behavior for service providers.
(Kallmuenzer et al., 2019)		Co-creation is a method of value creation used to share information and efforts between service businesses and customers to create acceptable service experiences.
(Grönroos, 2012)		Social capital can enhance the exchange of knowledge between customers businesses, which in turn has a positive effect on the development of value.
(Revilla-Camacho et al., 2015; Shamim et al., 2016; Yi & Gong, 2013)		• Corporate interaction relations between hospitality firms and customers will lead to the sharing of information, the production of resources, the exchange of information, the collaboration of products and services, and the delivery of values to firms and customers. • Social interaction between firms and customers is a critical social capital for the restaurant industry, allowing customers to participate in the process of co-creation service that can develop positive values and support both the firm and the consumer.
(McColl-Kennedy et al., 2012)		Customer value co-creation is where customers increase the value of a product or service by engaging in the service process and developing it.
(Lengnick-Hall, 1996)		Customer engagement behavior is the process of customer participation in service production and delivery, a necessary in-role customer behavior required to co-create value.
(Bettencourt, 1997; Ennew & Binks, 1999)		Through resource integration, value co-creation is introduced. Customer value co-creation is defined as the value from the coordination of resources through activities and interactions with customer relations network partners.

(Ennew & Binks, 1999)		Resources such as information for use in value co-creation processes should also be communicated by customers.
(Bettencourt, 1997)		Clients must be responsible for successful value co-creation between themselves and the organization's employees (Yi & Gong, 2013), cooperative, interacting with rules and regulations and accepting employee directions (Ennew & Binks, 1999; Yi & Gong, 2013). Co-creation of successful value often includes personal.
(Cespedes, 1993; Day, 1994; Slater & Narver, 1995)	Information seeking	Customers seek knowledge about executing their tasks.
	Information sharing	Using information seeking and information sharing to make positive attributes to the customer.
	Responsible Behavior	Responsible behavior and personal interaction to co-creation of successful value often includes personal interaction between customers and employees and involves technology's distrust and doubts regarding its ability to operate correctly.
(J. Barney, 1991; M.Grant, 1991; Peteraf, 1993; Prahalad & Hamel, 1989; R.M., 1996; Teece et al., 1997; Wenerfelt, 1984)	Personal Interaction	Co-creation of successful value often includes personal interaction between customers and employees.

2.2.3.1- Customer Value Co-creation Behaviors (CVCCB) and Marketing Capability (MC)

In the past discussions of literature, it indicated the existence of various marketing capacity classifications. They all share the assumption that particular processes of marketing practice these capacities. The first refers to a company's ability to recognize consumers' needs, the second to the ability to establish relationships with them.

Several kinds of research suggest that successful development of marketing capabilities allows the departments of Marketing and Sales to change their position and practices to enhance the coordination of their operations and to bring integrated processes to life, for example (Vorhies, 1998). However, researchers have devoted just a little attention to the

methods that can be used by an organization to facilitate cooperation between the two units, as both are involved in the design and execution of marketing processes. Almost all research on this subject generally concludes that a single organizational unit, namely the Marketing Department, is under the full responsibility and supervision of marketing activities. See Table 10, Influence between Customer Value Co-creation Behaviors (CVCCB) and Marketing Capability (MC).

Table 10 Influence between Customer Value Co-creation Behaviours (CVCCB) and Marketing Capability (MC)

Author(s)	Research Objective	Methodology	Main Findings
(E. M. Zhang, 2010b)	contributes to the sterilization literature by showcasing how digitalization capabilities are enabling value co-creation in a business-to-business context	Method, Case Study	the role of digitalization capabilities in the value co- creation process and showcasing the mechanisms of this value co-creation in a manufacturing firm and customer interaction process.
(Day, 1994)	focused on the EO-performance relation, even though growth and profitability do not always correlate positively. The results reveal the complexity of the relationships between EO, strategy, environment, resources and growth. Introduction	Survey, PLS SEM	The role of marketing capabilities in achieving a firm's competitive advantage has been illustrated by an increasing number of studies. Using the company's resource-based view and the company's capacity-based view marketing researchers have shown that marketing resources and capabilities can contribute to the creation of competitive advantage because they may be unusual, difficult to

			a competitive advantage
(T. Li & Calantone, 1998; Slater & Narver, 1995; Weerawardena, 2003a, 2003b)	Found to influence marketing capabilities development	Survey, Regression Analysis	Applying the company's professional intelligence, skills and resources to the corporation's market-related needs, allowing businesses to add value to its products and services, respond to market conditions, take advantage of market opportunities and meet competitive threats.
(Jaworski & Kohli, 1993; Narver&Slater, 1990)	Understanding what they do, and measuring the bottom-line consequences of their orientation to their markets.	Method, Case Study	Ranges between market perception and customer-link capabilities, has suggested the most common one.
(Cespedes, 1993; Day, 1994; Slater & Narver, 1995)	Reveal a positive association between new product advantage and product market performance.	Survey, Regression Analysis	Other authors say that a unique skill, that is, the customer's ability to learn, is shared among market-oriented firms.
(Homburg et al., 2002; Homburg, Ch. Workman, Jr., J. P. Krohmer, 1997; Krohmer, H. Homburg, Ch. Workman, J. P., 2000)	Linkage between a market orientation and performance	Survey, Regression Analysis	In reality, the ability to gather, transmit and use market-based data is essential to organizational performance development.
(Guenzi & Troilo, 2006)	the factors affecting marketing-sales co-ordination requirements in consumer goods firms go way beyond the oft- documented fact of increased spending on trade promotions, and that companies are	Method, Case Study	Several kinds of research suggest that successful development of marketing capabilities allows the departments of Marketing and Sales to change their position and practices to enhance

	responding to these requirements with a variety of organizational initiatives.		the coordination of their operations and to bring integrated processes to life.
(Bruderl et al., 1992)	To address three issues in regard to marketing's influence within the firm. First,	Survey, Regression Analysis	However, does not hold if one takes into account that in many modern corporations, the sales department has more control on many of the so-called "marketing" decisions than marketing
(Cooper et al., 1991)	reports on an exploratory effort to use the means– end theory in explaining Marketing–Sales integration.	Survey, Regression Analysis	Integration comes to the fore as a relevant theoretical and managerial issue.

H7: Customer Value Co-creation Behaviors (CVCCB has positive influence on Marketing Capability (MC) of Real Estate firms.

2.2.3.2 Customer Value Co-creation Behaviors (CVCCB) and Firm Performance (Survival) (FP-S)

Latest reports on the survival and discontinuance of a firm is a common misunderstanding that new businesses discontinue activities at a relatively higher rate than traditional firms. While data suggests that characteristics such as founders' leadership or social relationships contribute to new opportunities for firm survival, it is concluded that this focus does not provide a complete view. Neither is it assumed that a concentrate on the company's internal factors, such as the distribution of authority or control duration, thoroughly explains new company results over time. The focus is on a more overlooked field of unique firm attributes without disregarding these and other research streams' value: contextual situations. Researchers propose that with an understanding of the segmentation under which the new business operates, new company survival and discontinuance may begin with an experience.

Also, it is hypothesized that these contextual conditions would place differential probabilities on the new firm's survival and discontinuance.

Contextual conditions of a new Firm Survival are separated from other characteristics in that founders may have no chance of altering their effect on the organization until committed to the situation. Contextual requirements may also be regarded as characteristics of the organization that are directly or indirectly chosen by the founders in the new company's development process. The degree to which executives consider the meaning of the new company's segmentation is not well known and is not discussed here. However, it is thought that they are "givens" in certain instances and are not decisions representing preference among a large variety of alternatives. Three criteria have been selected that are believed to fall within the boundaries of a new business context definition: location, industry, and strategy. Because these three conditions have been investigated by so little previous research on contextual conditions and new firm survival, researchers depend on similar research streams to perform this exploratory study. Therefore, business orientation focuses on the company's potential to be reactive to clients and other related stakeholders (e.g. rivals and staff) to be successful. The research foundations of a significant body of literature that can be grouped into two 's popular are these four articles; a behavioral and a cultural viewpoint. The former perspective views market orientation as a behavioral reaction to an organization's competitive operational variables. See Table 11, Influence between Customer Value Co-creation Behaviors (CVCCB) and Firm Performance Survival (FP-S).

Table 11 Influence between Customer Value Co-creation Behaviours (CVCCB) and Firm Performance (Survival) (FP-S)

Author(s)	Research Objective	Methodology	Main Findings
(Reynolds & Miller, 1992; Stearns et al., 1995; Variyam & Kraybill, 1992)	Emphasizes organizational characteristics and environmental conditions.	Method, Case Study	The discontinuance of a new firm may be the product of the founders' characteristics, the new firm's structural characteristics, and environmental factors that affect every new business's effort to offer a product or service to the market.
(Stearns et al., 1995)	To study of corporate entrepreneurship and its impact on company financial performance.	Method, Case Study	As a key factor shaping new corporate survival and success, most research has concentrated on founders.
(Augusto & Coelho, 2009; Lukas & Ferrell, 1990)	To analysis suggests that the widely varying estimates of new firm survival and contributions may be related, in part, to variation in the criteria used to determine a new firm birth (founding, entrance).	Method, Case Study	Indeed, preliminary evidence suggests that new firm founders are highly likely to start a new business in the place where they live.
(Augusto & Coelho, 2009; Beverland, M.B., Napoli, J., and Lindgreen, 2007; Kaynak & Kara, 2004; Sanzo et al., 2003)	The industry of the new firm is examined by focusing on where the new firm is located in the value chain.	Survey, Regression Analysis	We propose theories be evaluated after a brief discussion of the three contextual conditions relating to the new firm's survival and discontinuance value.
(Dalgic & Leeuw, 1994; Deshpandé & Farley, 2004; Racela et al., 2007)	Testing the influence of entrepreneurship and market orientation to performance by competitive advantage as mediating and the	Survey, Regression Analysis	Marketing innovation has been the subject of limited review in theoretical market literature. However, while the relationship between market orientation

	perception of environment uncertainty as moderating variable.		and innovation is not yet thoroughly described, it is closely associated with the better-researched construct of market orientation.
(Day, 1994; Kaynak & Kara, 2004; Kohli & Jaworski, 1990; Narver&Slater, 1990)	To examine the global branding programs of five New Zealand industrial firms and identify the salient components and capabilities underpinning such programs.	Method, Case Study	Market orientation is a key focus of modern marketing concepts, and both academic researchers and practitioners have gained increasing attention.
(Augusto & Coelho, 2009; Hauser et al., 2006; Jaworski & Kohli, 1993; Kohli & Jaworski, 1990; Narver&Slater, 1990)	gain economies of knowledge in contrast to economies of scale; know your customers and their business; become a specialist in the business of your customers; know your competitor; know your environment; customize your product to suit the customer's business: do not suit it to suit your own business; focus on the customer, be market driven.	Method, Case Study	However, it is still subject to different meanings and needs further study, especially in international contexts.
(Narver&Slater, 1990; Ruekert, 1992; Slater & Narver, 1994)	indicated that there were statistically significant differences between market-oriented and non-market-oriented Chinese managers in terms of their responses to market orientation scale statements.	Method, Case Study	Market orientation is generally defined as understanding customers and other related stakeholders and supporting them. In other words, it is the application of the principle of marketing.
(Day, 1994; Diamantopoulos &	To report on an exploratory effort to	Method, Case Study	Market orientation and innovation are

Hart, 1993; Jaworski & Kohli, 1993)	use the means-end theory in explaining Marketing-Sales integration.		strongly associated constructs with the main goal of innovation being the creation of new or changed products/processes aimed at enhancing organizational efficiency and with superior performance fundamentally based on understanding, and fulfilling customer need better than one's competitors, Four seminal research on customer orientation.
(Han & Suk, 1998)	Affect the focus of the external emphasis within a market orientation	Survey, Regression Analysis	• As clearly pointed out, almost all of the business orientation literature indicates a positive and specific success relationship. • Emphasize that market orientation leads businesses to accept an external orientation and commitment to innovation, which in turn helps them to produce and maintain excellent performance. • suggest that innovation is a key value-creating skill that drives the relationship

			between customer orientation and performance.
(Deshpandé et al., 1993)	examines a number of these propositions empirically, concluding that the market orientation - business performance relationship is situation- specific subject to various moderating influences.	Survey, Regression Analysis	Explains how market orientation improves success by offering a superior ability for companies to understand, attract and maintain clients. However, other studies also indicate no significant relationship or mixed outcomes between the two constructs.
(Hurley & Hult, 1998; Zaltman, Duncan, 1973)	find that stock returns are positively related to institutional ownership, indicating that institutional owners are active in	Survey, Regression Analysis	Propose that innovation may help to resolve these uncertainties in empirical literature as a missing link between business orientation and organizational efficiency.
(Kohli & Jaworski, 1990)	correlated positively with the customer's evaluation of the supplier's customer orientation, but the supplier's own assessment of customer orientation did not correspond well to that of the customer.	Survey, Regression Analysis	indicate that market orientation may facilitate innovation as a path to operational productivity.
(Hurley & Hult, 1998; Naidoo, 2010a, 2010b)	recommendations for incorporating constructs related to innovation into research on market orientation and organizational learning.	Survey, Regression Analysis	indicate that innovation has two stages: initiation and implementation. Openness and willingness to innovate are critical elements of the early stages.
(Carnahan et al., 2010)	To report on an exploratory effort to use the means-end	Method, Case Study	suggest that market orientation is a standard for

	theory in explaining Marketing-Sales integration.		innovation, with market orientation reflecting organizational-wide responsiveness to market information.
(Day, 2011)	Examined manufacturing SMEs had a greater perceived likelihood of survival had they developed and sustained a competitive advantage. Second, marketing innovation assisted in developing and sustaining competitive advantages based on differentiation and cost leadership strategies. Third, marketing innovation capabilities improved when the examined manufacturing SMEs were competitor oriented and had good inter-functional.	Survey, PLS SEM	As it opens up the organization to new consumer demands and new business processes, market orientation can thus serve as a base for innovation. In other words, a critical part of the early stages of innovation can be a business orientation.

H8: Customer Value Co-creation Behaviors (CVCCB has positive influence on Firm Performance (Survival) (FP-S) of Real Estate firms.

2.2.4 Marketing Capability (MC)

In Table 12, Hughes and Morgan (2007) described the main marketing elements of pricing, product, distribution, communication (4 P's of marketing), selling, planning and implement of marketing strategies. This is proper to include them in this study to clarify terminologies in light of the current study. See Table 12, Marketing Capability (MC) Definition.

Table 12 Marketing Capability (MC) Definition

Author	Elements	Definition
(Hughes & Morgan, 2007)		interrelated marketing capability areas have been identified: capabilities concerning individual 'marketing mix' processes, such as product development and management, pricing, selling, marketing communications, and channel management.
	Pricing	Using pricing skills and systems to respond quickly to market changes Knowledge of competitors' pricing tactics Doing an effective job of pricing products/services Monitoring competitors' prices and price changes Product.
	Product	Ability to develop new products/services. Developing new products/services to exploit R&D investment Successfully launching new products/services.
	Distribution	Strength of relationships with distributors Attracting and retaining the best distributors Adding value to our distributors' businesses Providing high levels of service support to distributors
	Marketing communication	Developing and executing advertising programs. Advertising management and creative skills Public relations skills Brand image management skills and processes
	Selling	Giving salespeople the training, they need to be effective. Sales management planning and control systems. Selling skills of salespeople Sales management skills Providing effective sales support to the salesforce
	Marketing planning	Marketing planning skills Ability to effectively segment and target market Developing creative marketing strategies Thoroughness of marketing planning processes Marketing.
	Marketing implementation	Allocating marketing resources effectively Organizing to deliver marketing programs effectively Translating marketing strategies into action Executing marketing strategies quickly

2.2.4.1- Marketing Capability (MC) and Firm Performance (Survival) (FP-S)

Businesses can develop marketing capabilities to be ideally prepared to introduce and produce new products quickly and successfully, use pricing capabilities to adapt quickly to any customers' adjustments, provide high-quality after-sales service, and work closely with distributors and retailers on the market (J. Barney, 1991; Makadok, 2001; Teece et al., 1997). See Table 12 and Table 13.

Table 13 Influence between Marketing Capability (MC) and Firm Performance (Survival) (FP-S)

Author(s)	Research Objective	Methodology	Main Findings
(Day, 2011; Vorhies & Morgan, 2005)	Entrepreneurial orientation tends to examine its three most common features focuses on dynamic capabilities and, more generally, the resource-based view of the firm.	Survey, Regression Analysis	The RBV emphasizes capabilities as central to understanding a business's success in international markets.
(Capron & Hulland, 1999; N. A. Morgan & Mason, 2009)	develops a basic theoretical model to address these questions, and derives testable hypotheses from the model.	Method, Case Study	In addition, the RBV is based on the uniqueness assumption of firms. The more disparate the companies that compete in the industry, the more critical, the higher performance potential.
(Krasnikov & Jayachandran, 2008; Vorhies & Morgan, 2005)	Vigilant market learning that enhances deep market insights with an advance warning system to anticipate market changes and unmet needs, adaptive market experimentation that continuously learns from experiments, and open marketing that forges relationships with those at the forefront of new media and social networking technologies and mobilizes the skills of current partners.	Method, Case Study	Marketing capabilities are the processes by which businesses select planned value proposals for target customers and system and networks to achieve specific targets to achieve these value offers.

(J. Barney, 1991)	the effects of redeployment on subsequent product costs, product quality, product line breadth, geographic market coverage, market share, and profitability are examined.	Survey, Regression Analysis	In particular, the literature suggests that marketing capabilities may be motionless, unparalleled mechanisms of value creation, and mostly irreplaceable.
(N. A. Morgan & Mason, 2009)	The impact of the marketing function on firm performance has been the focus of much recent research in marketing.	Survey, Regression Analysis	Companies invest significant resources on developing, sustaining and optimizing marketing capabilities, and the relation between marketing capabilities and firm performance has been suggested in recent research.
(W. Wu et al., 2012)	the analysis focuses on the EO-growth relation; and it uses a flexible which allows the study of several simultaneous relationships.	Survey, PLS SEM	Such cooperation will theoretically make marketing capabilities an unparalleled resource and a greater potential source of competitive advantage.
(Ramaswami et al., 2009)	Market orientation has a direct effect on firms' return on assets (ROA), and that marketing capabilities directly impact both subject and perceived firm performance.	Survey, PLS SEM	The theory assumes that managers can not only separate different marketing capabilities that they think are important but can also associate these capabilities with successful output experimentally.
(Vorhies & Morgan, 2005)	Reconcile the mixed findings of previous studies on the effect of political connections on firm performance.	Survey, Regression Analysis	In evaluating the international growth revealed a significant positive relationship, Zhou and colleagues established marketing capabilities.
(N. A. Morgan et al., 2003)	Provide strategic insights to managers on optimal customer management, product development and supply chain strategies.	Survey, PLS SEM	Prior export research has suggested that various marketing skills can be most useful in combination for companies as they communicate to help companies achieve higher performance.
(Martin & Javalgi, 2016;	Suggest that benchmarking has the	Survey, PLS SEM	In the export marketing sense and

Weerawardena et al., 2007)	potential to become a key learning mechanism for identifying, building, and enhancing marketing capabilities to deliver sustainable competitive advantage.		based on the RBV, Morgan and colleagues also aim to investigate that firms operating in such markets are usually more similar than firms in domestic markets.
(Martin & Javalgi, 2016)	the notion of a positive EO-performance relationship can be questioned. Earlier studies have neglected some important issues, mainly regarding the use of perceptual performance data, common method biases and survival biases. Some of the conclusions presented are supported by the empirical study.	Survey, Regression Analysis	Consequently, for optimizing positional advantages and export efficiency, marketing capabilities are critical.
(Narver&Slater, 1990)	contributes to the almost wholly ignored research about new venture internationalization and performance debate.	Survey, Regression Analysis	concentrating on such marketing capabilities, businesses can enhance their efficiency. In answer, and in consideration of this discussion, this research proposes.(Han & Suk, 1998)

H9: Marketing Capability (MC) has positive influence on Firm Performance (Survival) (FP-S) of the Real Estate firms.

2.2.5 Firm Performance (Survival) (FP-S)

Based on the scale developed by Narver and Slater (Han & Suk, 1998), market orientation was measured, and the following components were adopted as the measurement basis: customer orientation (eight items), competitor orientation (eight items) and inter-functional coordination (eight items). According to Han (Hurley & Hult, 1998), for research purposes, a component-wise approach was used to separately examine each of the three business orientation elements. Similar to Han (M. F. Porter, 1980), confirmatory factor analysis

suggested that while reasonable factor loadings were generated by a combined market orientation construct, a three-factor measure provided a better fit for the results.

From Hurley and Hult (Frambach et al., 2003), the scale was adapted to the marketing innovation (7 items) scale. In this analysis, the competitive advantage scale used was based on three generic strategies from Porter (Campbell-Hunt, 2000; Frambach et al., 2003): differentiation, cost leadership and concentration. A method for differentiation requires establishing and maintaining a market position that is viewed as exceptional. By benchmarking against competitive businesses, companies aim to minimize relative costs (thus increasing profitability) through a cost control strategy. A focus strategy includes serving a tightly defined market segment and outperforming more generally operating competitive businesses. Based on Frambach, Prabhu and Verhallen (Rajiv & H.Noble Charles, 2008), competitive advantages were built to evaluate differentiation (4 items), cost leadership (5 items) and focus (4 items). Since businesses may either follow one competitive strategy over another or implement a combination of competitive strategies collectively (Naidoo, 2010b), it is regarded the three-generic differentiation, cost control and focus strategies conceptually as complementary rather than mutually exclusive. Therefore, a participant firm can score equally high (or low). Similarly, one generic approach over another could also be preferred by the respondent's businesses. Finally, a measure of success (Narver&Slater, 1990), survival (4 items), was calculated using a perceptual construct. The interviews conducted during the pre-testing of this study were aware of this measure (Han & Suk, 1998). See Table 14, Firm Performance Survival (FP-S) Definition.

Table 14 Firm Performance Survival (FP-S) Definition

Author	Elements	Definition
(Hurley & Hult, 1998; M. F. Porter, 1980)		market orientation was measured, and the following components were adopted as the measurement basis: customer orientation (eight items), competitor orientation (eight items) and inter-functional coordination (eight items).
(M. F. Porter, 1980)		a component-wise approach was used to separately examine each of the three business orientation elements. confirmatory factor analysis suggested that while reasonable factor loadings were generated by a combined market orientation construct, a three-factor measure provided a better fit for the results.
(Campbell-Hunt, 2000; Frambach et al., 2003)		the scale was adapted to the marketing innovation scale. In this analysis, the competitive advantage scale used was based on three generic strategies from Porter (Naidoo, 2010b, 2010a; Rajiv & H.Noble Charles, 2008): differentiation, cost leadership and concentration.
(Rajiv & H.Noble Charles, 2008)		competitive advantages were built to evaluate differentiation (4 items), cost leadership (5 items) and focus (4 items). Since businesses may either follow one competitive strategy over another or implement a combination of competitive strategies collectively.
(Naidoo, 2010b)		Finally, a measure of success (Krejcie & Morgan, 1970), survival (4 items), was calculated using a perceptual construct. The interviews conducted during the pre-testing of this study were aware of this measure. (Fazwaz group, 2020)

Based on the above discussion, the following hypotheses are posited.

H1: Entrepreneurial Orientation (EO) has positive influence on Digital Transformation (Technology Readiness) (DT-TR) of the Real Estate firms.

H2: Entrepreneurial Orientation (EO) has positive influence on marketing capabilities (MC) of the Real Estate firms.

H3: Entrepreneurial Orientation (EO) has positive influence on Customer Value Co-creation Behaviors (CVCCB) of the Real Estate firms.

H4: Entrepreneurial Orientation (EO) has positive influence on Firm Performance (Survival) (FP-S) of the Real Estate firms.

H5: Digital Transformation (Technology Readiness) (DT-TR) has positive influence on Customer Value Co-creation Behaviors (CVCCB) of the Real Estate firms.

H6: Digital Transformation (Technology Readiness) (DT-TR) has positive influence on Marketing Capability (MC) of the Real Estate firms.

H7: Customer Value Co-creation Behaviors (CVCCB has positive influence on Marketing Capability (MC) of the Real Estate firms.

H8: Customer Value Co-creation Behaviors (CVCCB has positive influence on Firm Performance (Survival) (FP-S) of the Real Estate firms.

H9: Marketing Capability (MC) has positive influence on Firm Performance (Survival) (FP-S) of the Real Estate firms.

2.3 Conceptual Framework

The study of the relationship between Entrepreneur Orientation, Digital transformation, Customer Value Co-Creation Behaviors, Marketing Capability and Firm Performance to Survival: A quantitative analysis in Case of Real Estate Company in Thailand

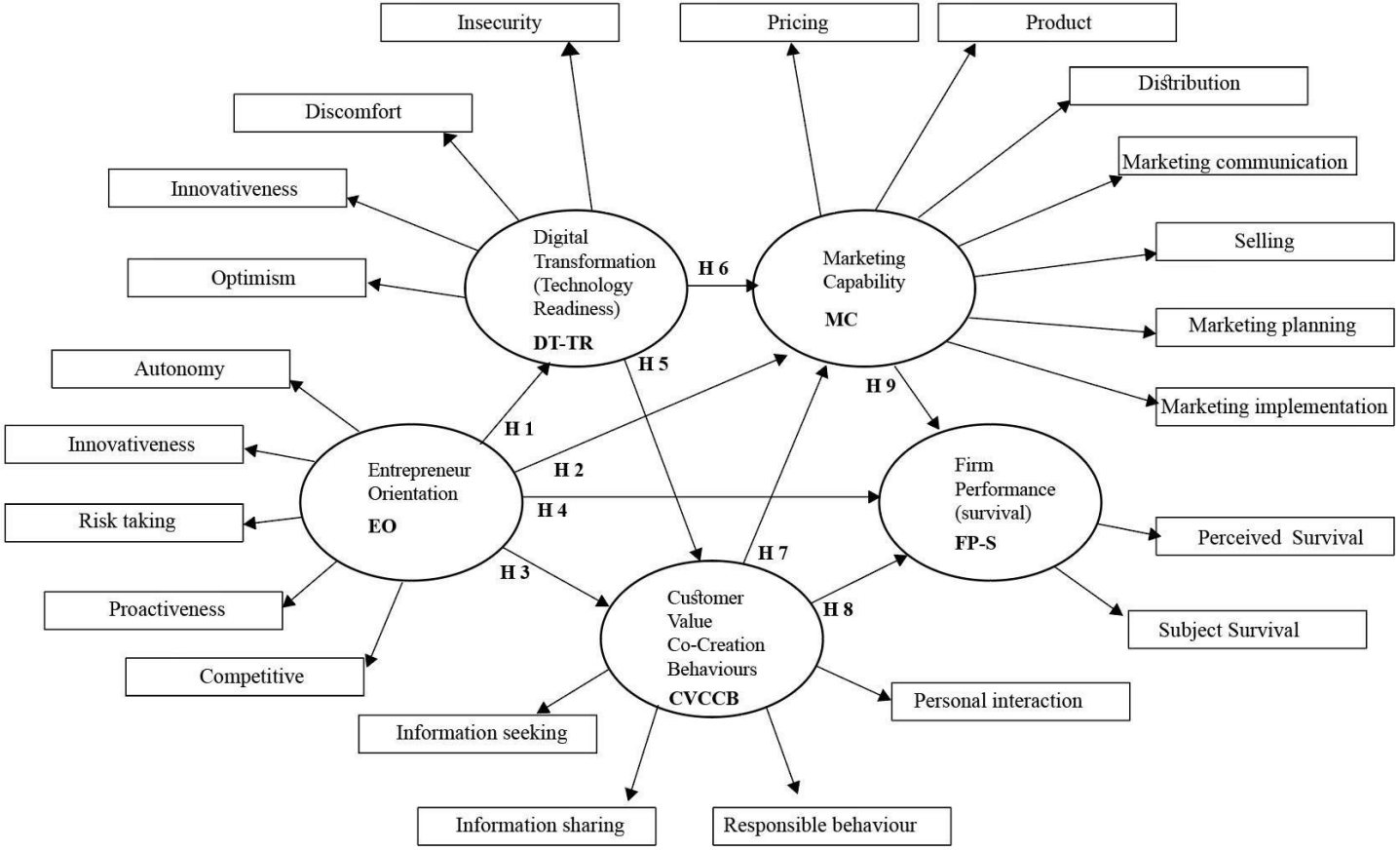


Figure 1 Partial Least Square-Structural Equation Model (PLS-SEM).

2.4 Summary

The global economic crisis has brought fast-moving and unpredictable factors but businesses were not ready to handle the disaster as there were practically no plans nor teams that were organize to plan and implement strategies. They had to find a way to get through by to prepare firms to thrive and survive. This happened to the real estate industry in Thailand, as among the many in the world. VUCA was the first tool used to question how to analyze a crisis and create the appropriate strategy to solve immediate issues as well as long-term problems. When the entrepreneur knew what the problems were, the RBV concept helped companies understand how organizations could achieve sustainable competitive advantage and create unique products and services in relation to Entrepreneurial Orientation. It was observed that companies that adopted these methods thrived through the crisis with autonomy, innovativeness, risk-taking, proactiveness and competitive aggressiveness.

Entrepreneurial Orientation was found directly related to business performance. Firm Performance to Survival in a new digital transformation era was achieved by banking on marketing capability and understanding customer behavior by co-creation with customers. This review of related literature presented was the relationship between variable Entrepreneurial Orientation (EO), Digital Transformation (Technology Readiness) (DT-TR), Marketing Capability (MC), Customer Value Co-creation Behaviors (CVCCB) and Firm Performance (Survival) (FP-S) for real estate businesses. The entrepreneurial company engages in a creative product or market segment the first to represent an innovative and proactive behavior, capable of aggressively developing the idea of entrepreneurial Orientation (EO) in organizations entrepreneurial orientation one-dimensional construct defined by dimensions of risk, constructive approach and innovation. EO had become the main focus for entrepreneurial activities in business literature and characterized process innovate and generate new opportunities leading to improvements in the company in the market sector. The propensity of people is referred to The Technology Readiness Index to use new goods and services. Along

the way, EO gains a competitive advantage and obtain desirable performance by market capabilities are aligned with the real estate sector. Marketing capabilities can be seen as a firm's skills and competencies help understand changes in its markets more effectively. Marketing capabilities include the rapid production and launch of new goods, rapidly reacting to any customer changes using pricing expertise, and providing distributors with high levels of support to deliver customer value integration designed to meet the firm's market-related needs.

Entrepreneurial co-creation was synthesized from entrepreneurship's current academic opinions, stakeholder relationship management, and value co-creation support new concepts and further research visions. The relations between these issues refined the entrepreneurial approach, diverse capabilities entrepreneurship and practice to support value co-creation represented customer participation behavior and customer citizenship behavior by four customer interaction behavior, namely: information seeking, information sharing, responsible behavior and personal interaction. EO has a reasonable positive impact on firm performance in different kinds of organizations. Innovation may change the current economic structure and often destroy the firm's prior economic system to survive. Innovativeness is a critical element of EO that plays an important role in improving FP differentiate the products from those of competitors and enhance the firm's opportunity to communicate in product development and change development standards. Customer experiences have become the fundamental process of value co-creation across social networking networks and mobile apps. This issue describes clients' nature by engaging in shared activities as more 'intersubjective' than 'objective' customers combine resources, co-create exchange value during relationship development, and use value during consumption. This was true for both face-to-face environments and online channels.

Entrepreneurs have to learn what customers need, creating and optimizing the resources and processes required to produce the value they want and adapting those processes that generate value as market conditions shift and make faster decisions, opens up new products

and new opportunities for the market. Then, they needed to focus on marketing capabilities processes by which businesses select planned value proposals for target customers, system, and networks achievement of specific target customers. Achieving these values offers resources on developing sustaining, optimizing marketing capabilities, the relation between marketing capabilities and firm performance. The organization will achieve differentiation, cost leadership and concentration benchmarking against competitive businesses, where such company could aim to minimize relative costs (and, thus, increase profitability) through a cost control strategy.

Chapter 3: Research Methodology

The following section discusses the research methods used in this study, the population and sample size as well the research instruments, and the procedure of how gathered data were interpreted.

3.1 Research Methodology

The study used the quantitative method of research where most variables were represented by data derived from questions answerable by definite, non-qualitative, items. These gathered data were thence interpreted using statistical instruments. These are all discussed in the following section.

Population and Sample size

The researcher aimed to conduct the study at the enterprise level, gathering opinions among executives and entrepreneurs in the real estate industry in Thailand. Probability sampling, specifically the convenience sampling technique, was relied on. Filtering the qualified companies to be included in this study, the researcher included real estate companies that employed between 50-200 employees (Junk, 1999), the reason being that these were the leading real estate businesses who were in the marketplace to buy, rent and sell properties in Thailand. The researcher found a total of 613 companies of these categories who were given out the survey questionnaire used by the researcher. See the Appendix, Research Questionnaire. Out of these, 237 returned the answered questionnaires.

In calculating the representative sample size with a known population, the researcher used the following formula (Fazwaz group, 2020).

$$! = \frac{\#^{\$} \times \& \times ' \times (1 - ')}{,-.^{\$} \times (\& - 1)/ + ,\#^{\$} \times ' \times (1 - ')/}$$

where:
n = Sample Size
N = Population Size
X^2 = Chi-square for the specified confidence level at 1 degree of freedom(X^2=3.841)

P = Population proportion
ME^2 = Desire Margin of Error (express as a proportion)

$$! = \frac{3.841 \times 613 \times 0.50 \times (1 - 0.50)}{,0.05^{\$} \times (613 - 1)/ + ,3.841 \times 0.50 \times (1 - 0.50)/}$$

$$! = 237$$

According to Salant, Dillman, & Don (1994), the estimated total number of real estate organizations in Thailand is 613. The above formula was used with the margin of error at 5% and a confidence level at 95%. The level of confidence provides the reasonable degree of certainty or reliability of sample representativeness. Several researchers use the 95% level of confidence, according to Likert (1932). In this study, the researcher collected 237 samples, the minimum number derived from using the above formula (G. M. Sullivan et al., 2013a).

Research Instrument and Development

The operational construct was adapted from a previous research. The research instrument comprised 22 items and used the 5-points Likert scale. Likert (1932) suggested to use the 5 or 7 points scale rated by respondents for the degree to which they agree or disagree with a statement. Although there is a consensus that the scale is an interval, nominal or ordinal, the researcher followed the critical pieces of literature considering Likert's scale as an ordinal scale in which the degree of attitude can be rated or ranked. Still, the distance between the points is not measurable. Therefore, it cannot assume that the difference between responses is calculable (G. M. Sullivan et al., 2013b).

3.2 Measurements

As discussed in the previous section, the survey items used in this study were based on a five-point, Likert scale format and sourced from extant literature, wherever possible (1—strongly disagree, 5—strongly agree) (Zehir et al., 2015b).

Multi-item measures were developed to help reduce measurement errors associated with single-item measures. Both exploratory factor and reliability analyses were conducted to identify and refine the constructs used for data analysis. The questions in the survey were asked specifically to the period of the crisis.

In this research, the researcher has adopted the research instrument from the well-constructed previous research, which is well-accepted and valid. Tables 15, 16, 17, and 18 show the variable construct items, the Cronbach Alpha and Sources.

Table 15 Entrepreneurial Orientation (EO) Cronbach Alpha and Sources

Items	Cronbach Alpha	Sources
Entrepreneurial Orientation (EO)-Autonomy	0.708	(Zehir et al., 2015b)
1. I generally follow tried and right ways while conducting activities.		
2. New projects are approved step by step not as a whole.		
3. A more conservative way is followed in taking major decisions.		
Entrepreneurial Orientation (EO)-Innovativeness	0.854	(Zehir et al., 2015b)
1. Technical innovations based on research results are accepted quickly.		
2. Importance given to innovative ideas regarding products and services.		
3. In my firm, innovations are accepted easily in projects.		
4. Employees are not punished even if their new ideas do not work.		

5. Innovativeness is encouraged in the firm.		
Entrepreneurial Orientation (EO)-Risk taking	0.832	(Zehir et al., 2015b)
1. There is a strong proclivity for high-risk projects.		
2. In general, my operations include high risk.		
3. Taking bold, wide-ranging acts which are not tried before.		
4. Taking aggressive postures to maximize the probability of exploiting potential opportunities.		
Entrepreneurial Orientation (EO)-Proactiveness	0.863	(Parasuraman, 2000)
1. Effectiveness in providing new products/services.		
2. Changes in the products are more radical compared to competitors.		
3. Great importance to the development of new and innovative products.		
4. First move instead of responding to the moves of my competitors.		
Entrepreneurial Orientation (EO)-Competitive	0.842	(Parasuraman, 2000)
1. I often sacrifice profitability to gain market share.		
2. I often cut prices to increase market share.		
3. For higher prices, I often set prices below competitors.		
4.Market share position at the expense of cash flow and profitability.		

Table 16 Digital Transformation (Technology Readiness) (DT-TR) Cronbach Alpha and Sources

Items	Cronbach Alpha	Sources
Digital Transformation (Technology Readiness) (DT-TR)-Optimism	0.72	(Parasuraman, 2000)
1.Technology gives people more control over their daily lives.		
2.Products and services that use the newest technologies are much more convenient to use.		
3.I like the idea of doing business via computers because you are not limited to regular business hours.		
4. I prefer to use the most advanced technology available.		
5.I like computer programs that allow me to tailor things to fit my own needs.		
6.Technology makes me more efficient in my occupation.		
7.I find new technologies to be mentally stimulating.		
8.Technology gives me more freedom of mobility.		
9.Learning about technology can be as rewarding as the technology itself.		
Digital Transformation (Technology Readiness) (DT-TR)-Innovativeness	0.92	(Parasuraman, 2000)
1.Other people come to me for advice on new technologies.		

2.It seems my friends are learning more about the newest technologies than I am.		
3.In general, I am among the first in your circle of friends to acquire new technology when it appears.		
4.I can usually figure out new high-tech products and services without help from others.		
5.I keep up with the latest technological developments in my areas of interest.		
6.I enjoy the challenge of figuring out high-tech gadgets.		
Digital Transformation (Technology Readiness) (DT-TR)-Discomfort	0.72	(Y Yi, 2013)
1. Technical support lines are not helpful because they don't explain things in terms I understand.		
2.Sometimes, I think that technology systems are not designed for use by ordinary people.		
3.There is no such thing as a manual for a high-tech product or service that's written in plain language.		
4.When I get technical support from a provider of a high-tech product or service, I sometimes feel as if I am being taken advantage of by someone who knows more than I do.		
5.If I buy a high-tech product or service, I prefer to have the basic model over one with a lot of extra features.		
6.It is embarrassing when I have trouble with a high-tech gadget while people are watching.		
7.There should be caution in replacing important people-tasks with technology because		

new technology can breakdown or get disconnected.		
8.Many new technologies have health or safety risks that are not discovered until after people have used them.		
9.New technology makes it too easy for governments and companies to spy on people**.**		
Digital Transformation (Technology Readiness) (DT-TR)-Insecurity	0.68	(Y Yi, 2013)
1**.**I do not consider it safe giving out a credit card number over a computer.		
2**.**I do not consider it safe to do any kind of financial business online.		
3**.**I worry that information you send over the Internet will be seen by other people.		
4. I do not feel confident doing business with a place that can only be reached online.		
5. Any business transaction I do electronically should be confirmed later with something in writing.		
6. Whenever something gets automated, I need to check carefully that the machine or computer is not making mistakes.		
7. The human touch is very important when doing business with a company.		
8.When I call a business, I prefer to talk to a person rather than a machine.		

Table 17 Customer Value Co-creation Behaviours (CVCCB) Cronbach Alpha and Sources

Items	Cronbach Alpha	Sources
Customer Value Co-creation Behaviors (CVCCB)-Information Seeking		5.I didn't act rudely to the employee
1. I have asked others for information on what this service offers.		
2. I have searched for information on where this service is located.		
3.I have paid attention to how others behave to use this service well.		
Customer Value Co-creation Behaviors (CVCCB)-Information Sharing		
1.I clearly explained what we wanted the employee to do.		
2.I gave the employee proper information.		
3.I provided necessary information so that the employee could perform his or her duties.		
4.I answered all the employee's service-related questions.		
Customer Value Co-creation Behaviors (CVCCB)-Responsible Behavior		
1.I performed all the tasks that are required		
2.I adequately completed all the expected behaviours.		
3.I fulfilled responsibilities to the business.		
4.I followed the employee's directives or orders.		
Customer Value Co-creation Behaviors (CVCCB)-Personal Interaction		
1.I was friendly to the employee		
2. I was kind to the employee.		
3. I was polite to the employee.		
4. I was courteous to the employee.		

	0.78	(Y Yi, 2013)		
			0.77	(Carnahan et al., 2010)
	0.79	(Y Yi, 2013)		
			0.74	(Carnahan et al., 2010)

Table 18 Marketing Capability (MC) Cronbach Alpha and Sources

Items	Cronbach Alpha	Sources
Marketing Capability (MC)-Pricing	0.82	(Carnahan et al., 2010)
1. Using pricing skills and systems to respond quickly to market changes.		
2. Knowledge of competitors' pricing tactics.		
3. Doing an effective job of pricing products/services.		
4. Monitoring competitors' prices and price changes.		
Marketing Capability (MC)-Product	0.80	(Carnahan et al., 2010)
1. Ability to develop new products/services.		
2. Developing new products/services to exploit R&D investment.		
3. Successfully launching new products/services.		
4. Ensuring that product/service development efforts are responsive to customer needs.		
Marketing Capability (MC)-Distribution	0.89	(Carnahan et al., 2010)
1. Strength of relationships with distributors.	3. Public relations skills.	
2. Attracting and retaining the best distributors.		
3. Adding value to your distributors' businesses.		
4. Providing high levels of service support to distributors.		
Marketing Capability (MC)-Marketing Communication		
1. Developing and executing advertising programs.		
2. Advertising management and creative skills.		

0.81	(Carnahan et al., 2010)

4.Brand image management skills and processes.		
Marketing Capability (MC)-Selling	0.92	(Carnahan et al., 2010)
1.Giving salespeople the training, they need to be effective capabilities.		
2.Sales management planning and control systems		
3.Selling skills of salespeople		
4.Sales management skills		
5.Providing effective sales support to the salesforce		
Marketing Capability (MC)-Marketing Planning	1.89	(Naidoo, 2010a)
1.Marketing planning skills		
2.Ability to effectively segment and target market		
3.Developing creative marketing strategies		
4.Thoroughness of marketing planning processes		
Marketing Capability (MC)-Marketing Implementation	1.90	(Naidoo, 2010a)
1.Allocating marketing resources effectively.		
2.Organizing to deliver marketing programs effectively.		
3.Translating marketing strategies into action.		
4.Executing marketing strategies quickly.		

Table 19 Firm Performance (Survival) (FP-S) Cronbach Alpha and Sources

Items	Cronbach Alpha	Sources
Firm Performance (Survival) (FP-S)-Perceived Survival	0.68	(Beaton et al., 1998)
1.My firm will survive the current economic crisis.		
2. My firm possesses the ability to withstand the challenges of the current economic crisis.		
3. My firm is in a good position to address the slowdown in business activity currently being experienced as a result of the economic crisis.		
4.As a result of the economic downturn, selling prices have decreased in the last three months, but sales will recover back to pre-crisis levels.		
5. My firm will continue business operation in next five years.		
6. My company will have more customers.		
7. My firm will be able to reduce the cost through the advancement of technology and communication.		
Firm Performance (Survival) (FP-S)-Subject Survival -Dummy variable	N/A	(Nunnally, 1994)
1. My firm is in a good position to address the slowdown in business activity currently being experienced as a result of the economic crisis.		
2. Sales volume may have decreased in the last three months as a result of the economic crisis, but sales will rebound back to pre-crisis level.		
3. Although the economy is downturn, my number of active customers are not much reduced.		
4. Compare to the prior economic downturn, my company can maintain the optimal gross profit margin.		
5. My firm can control the operational cost to ally with the current sales volume.		
6. My business can always acquire new customers.		

3.3 Summary

Back Translation Methodology

In order to address the issue whereby respondents might not be familiar with the English language, the researcher used the back-translation process. In this method, the research instrument had been prepared in English and then translated back to the Thai language version with the same content and context. Back translation is the process in which a translator or a team of skilled translators identify a previously translated text in another language back to the original language. Usually, this approach is done by a general translator or translator who has not already been active in the project and may not have direct knowledge of their particular context's aims. Back-translation is a helpful tool, thus paying special attention to culturally sensitive translation issues at the same time. Translators must keep a close eye on the two texts' intellectual and cultural ties (original and translated versions). For academic researchers who want to ensure the highest quality and accuracy, particularly in cross-cultural research, the back-translation method is especially useful. Back translation is an excellent way to prevent mistakes later in cross-cultural research while taking extra time. In order to prove translation accuracy, the researcher followed the back-translation approach (Franklin, 2007; Porte, 2015; Punch, 2016).

Pilot Test

To ensure the instrument's reliability, the internal consistency reliability from 30 sample sets was examined as a pilot test. The internal consistency was calculated with the Cronbach’s alpha value. Table 20 shows the Cronbach’s alpha value.

Table 20 Internal consistency value of the Pilot Test

Constructs	No. of items	Cronbach's Alpha
Entrepreneurial Orientation (EO)-Autonomy	3	0.733
Entrepreneurial Orientation (EO)-Innovativeness	5	0.741
Entrepreneurial Orientation (EO)-Risk taking	4	0.841
Entrepreneurial Orientation (EO)-Proactiveness	4	0.903
Entrepreneurial Orientation (EO)-Competitive	4	0.771
Digital Transformation (Technology Readiness) (DT-TR)-Optimism	9	0.895
Digital Transformation (Technology Readiness) (DT-TR)-Innovativeness	6	0.806
Digital Transformation (Technology Readiness) (DT-TR)-Discomfort	9	0.860
Digital Transformation (Technology Readiness) (DT-TR)-Insecurity	8	0.843
Customer Value Co-creation Behaviors (CVCCB)-Information Seeking	3	0.908
Customer Value Co-creation Behaviors (CVCCB)-Information Sharing	4	0.919
Customer Value Co-creation Behaviors (CVCCB)-Responsible Behavior	4	0.873
Customer Value Co-creation Behaviors (CVCCB)-Personal Interaction	5	0.885
Marketing Capability (MC)-Pricing	4	0.899
Marketing Capability (MC)-Product	4	0.863
Marketing Capability (MC)-Distribution	4	0.744
Marketing Capability (MC)-Marketing Communication	4	0.872
Marketing Capability (MC)-Selling	5	0.932
Marketing Capability (MC)-Marketing Planning	4	0.934
Marketing Capability (MC)-Marketing Implementation	4	0.900
Firm Performance (Survival) (FP-S)-Perceived Survival	7	0.871
Firm Performance (Survival) (FP-S)-Subject Survival Dummy variable	6	0.939

The result showed that Cronbach's alpha for all constructs was higher than 0.70, which confirms that the instrument is reliable (Salkind, 2006)

Sample Selection and Data Collection Procedure

This survey research used a casual or convenient sampling method among executives and entrepreneurs in real estate industry in Thailand. The researcher examined the relationships of among the variables, Entrepreneurial Orientation (EO), Digital Transformation (Technology Readiness) (DT-TR), Marketing Capability (MC), Customer Value Co-creation Behaviors (CVCCB) and Firm Performance Survival (FP-S). This causal research saw how a particular variable related to another variable (Salkind, 2006). The researcher used the quantitative survey method to collect primary data from a sample of executives and entrepreneurs in Thailand's real estate business for their business practice and attitude related to (EO), Digital Transformation (Technology Readiness) (DT-TR), Marketing Capability (MC), Customer Value Co-creation Behaviors (CVCCB) and Firm Performance Survival (FP-S). In this study, the sample data had been obtained between November 2020 and January 2021 from real estate organizations in Thailand. The 237 sample sets of data were collected and analyzed. The data was collected by sending questionnaires online with the use of Google Forms, which was sent through a group of people known in the real estate industry. Some were also sent via email.

Data Analysis

In this study, the researcher aimed at achieving the research objectives, namely: to find the relationship of Entrepreneurial Orientation (EO) with Digital Transformation (Technology Readiness) (DT-TR), Marketing Capability (MC), Customer Value Co-creation Behaviors (CVCCB) and Firm Performance for Survival (FP-S). The quantitative tool assisted in gathering data from among real estate organizations in Thailand, resulting in 237 respondents. This number had been derived earlier and had been proven representative of the population,

using a 95% level of confidence and 5% margin of error. The hypotheses were tested using the structural equation modelling (SEM), specifically, the structural equation modelling of partial least squares (PLS-SEM). The structural equation model of PLS consists of two keys: the estimation model and the structural model. The model of measurement reflects the relationships between the data measured and the latent variables. The questionnaire answered by respondents was the main tool to collect data. The survey was conducted in 2021. The ADANCO software was used in this study for the data processing and statistical analysis. The reliability and validity of the scale were tested using Cronbach's Alpha. This followed the a PLS-SEM that was used to test the research hypotheses.

Chapter 4: Result and Analysis

Respondent Demographic

The demographic of respondent describes things used to estimate the general and concrete measurements and dynamics characteristics of such respondents. Demographical measurements were primarily developed to study human populations but was extended to a variety of areas where researchers wanted to know the characteristics of the sample of the population who responded to research inquiries. In quantitative research, the demographic analysis uses administrative records to produce an accurate estimate of the population. Demographic analysis is often considered a reliable benchmark for the precision of census information gathered at any time. In this research, the respondent demographics had been divided into the Part 1: Personal Characteristics of the Respondents, Part 2: Relationship of Entrepreneurial Orientation to real estate companies in Thailand during the Covid-19 pandemic and the economic crisis., Part 3: Relationship of Digital Transformation (Technology Readiness) to Real Estate Company in Thailand on Covid-19 and the economic crisis., Part 4: Relationship of Customer Value Co-creation Behaviors to Real Estate Company in Thailand on Covid -19 and the economic crisis., Part 5: Relationship of Marketing Capability to Real Estate Company in Thailand on Covid -19 and the economic crisis., Part 6: Relationship of Firm Performance (Survival) to Real Estate Company in Thailand on Covid -19 and the economic crisis.

Gender

Among the 237 completed questionnaires respondents, there were 127 male (53.59%) and 110 female respondents (46.41%). This proportion of gender reflects equal gender equality in Thailand's real estate companies as well. Fawaz, the leading real estate marketplace to buy, rent and sell property in Thailand in Business report discloses that Thailand has a more

significant percentage of male more than female in real estate market in Thailand. In Thai real estate business, male hold 53.59% of leadership positions and female hold 46.41%. Table 21 reports the descriptive statistics for the respondent's gender demographics.

Table 21 Descriptive Statistics for Gender

Items	**Frequency**	**Percentage (%)**
Male	127	53.59
Female	110	46.41
Total	237	100

Age

Table 22 illustrates the distribution of the age of this study focused on a range of 36-40 years old, which makes up 35.02%. In contrast, the age range between 31-35 years old contributed 25.32%, the age ranges up to 41 years old group is 24.48%, the age range between 26 – 30 is 9.28%, and those respondents who have the range between 21-25 years old are only 5.90%. This information indicates that the majority of the respondents are 35 – 45 years old, categorized as a Generation X and Generation Y. Generation X, born 1965-1980. This generation was also called the baby bust generation because of its small size relative to the Baby Boom generation that preceded it. Therefore, the result may reflect the attitude toward technology adoption among young entrepreneurs as well.

Table 22 Descriptive Statistics for Age

Items	**Frequency**	**Percentage (%)**
21-25 years old	14	5.90
26-30 years old	22	9.28
31-35 years old	60	25.32
36-40 years old	83	35.02
Up to 41 years old	58	24.48
Total	237	100

Position

The results shown in Table 23 indicate a position ranking profile of respondents in their business. The majority of the respondents are Manager 27.85% and Senior Manager, which is a Business unit for 26.58%, whereas 15.20% hold the position as the Supervisor/Officer, and only 9.28% identify themselves as the Director in the company. 8.44% hold the position as the Managing Director, and only 5.06% identify themselves as the VP/AVP in the company.4.22% as Head of Business Unit, 2.53% position as C-Suite and only 0.84% position as CEO. This Descriptive Statistics for Position Rank shows that most of the respondents are critical decision-maker and the business owner operation. Therefore, their opinion toward the survey items would reflect the opinion of Real estate company in Thailand.

Table 23 Descriptive Statistics for Position Rank

Items	**Frequency**	**Percentage (%)**
CEO	2	0.84
C-Suite	6	2.53
Managing Director	20	8.44
Head of Business Unit	10	4.22
VP/AVP	12	5.06
Director	22	9.28
Senior Manager	63	26.58
Manager	66	27.85
Supervisor/Officer	36	15.20
Total	237	100

Mean and Standard Deviation Analysis

The mean score of each item is presented in this section. Table 24 shows the mean interpretation ranked in to five ranges. Each range of mean was ranked based on the calculation divided by 5 levels of Likert scales equal to 0.8 (Carnahan et al., 2010). This section presents the data based on data collection and analysis of mean and standard deviation of each construct

from the questionnaire which includes Entrepreneurial Orientation (EO) (Table 25), Digital Transformation (Technology Readiness) (DT-TR) (Table 26), Customer Value Co-creation Behaviors (CVCCB) (Table 27), Marketing Capability (MC) (Table 28) and Firm Performance (Survival) (FP-S) (Table 29).

Table 24 Ranges of Mean Value Interpretation

Ranges of Mean Value	**Interpretation**
1.00-1.80	Strongly Disagree
1.81-2.60	Somewhat Disagree
2.61-3.40	Neither agree nor disagree
3.41-4.20	Somewhat Agree
4.21-5.00	Strongly agree

Source: (Henseler et al., 2015)

Table 25 Entrepreneurial Orientation (EO) Descriptive Analysis (N = 237)

Items	**Mean Value**	**Standard Deviation**
Entrepreneurial Orientation (EO)-Autonomy		
1. I generally follow tried and right ways while conducting activities.	4.77	0.53
2. New projects are approved step by step not as a whole.	4.78	0.67
3. A more conservative way is followed in taking major decisions.	4.36	0.55
Entrepreneurial Orientation (EO)-Innovativeness		
1. Technical innovations based on research results are accepted quickly.	4.59	0.70
2. Importance given to innovative ideas regarding products and services.	4.68	0.71
3. In my firm, innovations are accepted easily in projects.	4.65	0.76

4. Employees are not punished even if their new ideas do not work	4.63	0.73
5. Innovativeness is encouraged in the firm.	4.66	0.62
Entrepreneurial Orientation (EO)-Risk taking		
1. There is a strong proclivity for high-risk projects.	4.68	0.75
2. In general, my operations include high risk.	4.70	0.80
3. Taking bold, wide-ranging acts which are not tried before.	4.75	0.76
4. Taking aggressive postures to maximize the probability of exploiting potential opportunities.	4.27	0.58
Entrepreneurial Orientation (EO)-Proactiveness		
1. Effectiveness in providing new products/services.	4.73	0.75
2. Changes in the products are more radical compared to competitors.	4.73	0.72
3. Great importance to the development of new and innovative products.	4.75	0.64
4. First move instead of responding to the moves of my competitors.	4.71	0.65
Entrepreneurial Orientation (EO)-Competitive		
1. I often sacrifice profitability to gain market share.	4.62	0.61
2. I often cut prices to increase market share.	4.13	0.31
3. For higher prices, I often set prices below competitors.	4.04	0.23
4.Market share position at the expense of cash flow and profitability.	4.58	0.50
Overall Mean	**4.59**	**0.63**

Table 25 presents the average mean score of Entrepreneurial Orientation (EO) at the "Agree" level (X = 4.59, SD = 0.63). All statement is interpreted as the agree level (X = 3.41-4.20). The statement with a highest agree level mean value is "New projects are approved step by step not as a whole." (X = 4.78, SD = 0.67). The statement with a lowest agree level mean value is "For higher prices, I often set prices below competitors." (X = 4.04, SD = 0.23).

Table 26 Digital Transformation (Technology Readiness) (DT-TR) Descriptive Analysis (N = 237)

Items	Mean Value	Standard Deviation
Digital Transformation (Technology Readiness) (DT-TR)-Optimism		
1.Technology gives people more control over their daily lives.	4.62	0.54
2.Products and services that use the newest technologies are much more convenient to use.	4.65	0.59
3.I like the idea of doing business via computers because you are not limited to regular business hours.	4.72	0.66
4. I prefer to use the most advanced technology available.	4.68	0.68
5.I like computer programs that allow me to tailor things to fit my own needs.	4.72	0.62
6.Technology makes me more efficient in my occupation.	4.73	0.62
7.I find new technologies to be mentally stimulating.	4.41	0.48
8.Technology gives me more freedom of mobility.	4.67	0.63

9.Learning about technology can be as rewarding as the technology itself.	4.63	0.58
Digital Transformation (Technology Readiness) (DT-TR)-Innovativeness		
1.Other people come to me for advice on new technologies.	4.34	0.53
2.It seems my friends are learning more about the newest technologies than I am.	4.58	0.68
3.In general, I am among the first in your circle of friends to acquire new technology when it appears.	4.60	0.68
4.I can usually figure out new high-tech products and services without help from others.	4.65	0.76
5.I keep up with the latest technological developments in my areas of interest.	4.69	0.75
6.I enjoy the challenge of figuring out high-tech gadgets.	4.51	0.65
Digital Transformation (Technology Readiness) (DT-TR)-Discomfort		
1.Technical support lines are not helpful because they don't explain things in terms I understand.	4.52	0.75
2.Sometimes, I think that technology systems are not designed for use by ordinary people.	4.63	0.75
3.There is no such thing as a manual for a high-tech product or service that's written in plain language.	4.54	0.68
4.When I get technical support from a provider of a high-tech product or service, I sometimes feel as if I am being taken advantage of by someone who knows more than I do.	4.57	0.70

5.If I buy a high-tech product or service, I prefer to have the basic model over one with a lot of extra features.	4.60	0.77
6.It is embarrassing when I have trouble with a high-tech gadget while people are watching.	4.51	0.62
7.There should be caution in replacing important people-tasks with technology because new technology can breakdown or get disconnected.	4.68	0.73
8.Many new technologies have health or safety risks that are not discovered until after people have used them.	4.69	0.79
9.New technology makes it too easy for governments and companies to spy on people**.**	4.71	0.68
Digital Transformation (Technology Readiness) (DT-TR)-Insecurity		
1**.**I do not consider it safe giving out a credit card number over a computer.	4.23	0.34
2**.**I do not consider it safe to do any kind of financial business online.	4.61	0.64
3**.**I worry that information you send over the Internet will be seen by other people.	4.65	0.61
4. I do not feel confident doing business with a place that can only be reached online.	4.65	0.68
5. Any business transaction I do electronically should be confirmed later with something in writing.	4.61	0.50
6. Whenever something gets automated, I need to check carefully that the machine or computer is not making mistakes.	4.68	0.59
7. The human touch is very important when doing business with a company.	4.74	0.64
8.When I call a business, I prefer to talk to a person rather than a machine.	4.81	0.57
Overall Mean	**4.61**	**0.63**

Table 26 presents the average mean score of Digital Transformation (Technology Readiness) at the "Agree" level (X = 4.61, SD = 0.63). All statement is interpreted as the agree level (X = 3.41-4.20). The statement with a highest agree level mean value is "When I call a business, I prefer to talk to a person rather than a machine." (X = 4.81, SD = 0.57). The statement with a lowest agree level mean value is "I do not consider it safe giving out a credit card number over a computer." (X = 4.23, SD = 0.34).

Table 27 Customer Value Co-creation Behaviors (CVCCB) Descriptive Analysis (N = 237)

Items	Mean Value	Standard Deviation
Customer Value Co-creation Behaviors (CVCCB)-Information Seeking		
1. I have asked others for information on what this service offers.	4.88	0.78
2. I have searched for information on where this service is located.	4.90	0.85
3.I have paid attention to how others behave to use this service well.	4.90	0.78
Customer Value Co-creation Behaviors (CVCCB)-Information Sharing		
1.I clearly explained what we wanted the employee to do.	4.90	0.77
2.I gave the employee proper information.	4.90	0.75
3.I provided necessary information so that the employee could perform his or her duties.	4.93	0.77
4.I answered all the employee's service-related questions.	4.91	0.79

Customer Value Co-creation Behaviors (CVCCB)-Responsible Behavior		
1.I performed all the tasks that are required	4.89	0.68
2.I adequately completed all the expected behaviours.	4.89	0.78
3.I fulfilled responsibilities to the business.	4.89	0.68
4.I followed the employee's directives or orders.	4.91	0.85
Customer Value Co-creation Behaviors (CVCCB)-Personal Interaction		
1.I was friendly to the employee	4.86	0.65
2. I was kind to the employee.	4.63	0.40
3. I was polite to the employee.	4.87	0.77
4. I was courteous to the employee.	4.89	0.79
5.I didn't act rudely to the employee	4.91	0.79
Overall Mean	**4.88**	**0.74**

Table 27 presents the average mean score of Customer Value Co-creation Behaviors (CVCCB) at the "Agree" level (X = 4.88, SD = 0.74). All statement is interpreted as the agree level (X = 3.41-4.20). The statement with a highest agree level mean value is "I provided necessary information so that the employee could perform his or her duties." (X = 4.93, SD = 0.77). The statement with a lowest agree level mean value is "I was kind to the employee." (X = 4.63, SD = 0.40).

Table 28 Marketing Capability (MC) Descriptive Analysis (N = 237)

Items	Mean Value	Standard Deviation
Marketing Capability (MC)-Pricing		(Hulland, 1999)
1.Using pricing skills and systems to respond quickly to market changes.	4.89	0.73
2.Knowledge of competitors' pricing tactics.	4.89	0.71
3.Doing an effective job of pricing products/services.	4.90	0.76
4.Monitoring competitors' prices and price changes.	4.92	0.64
Marketing Capability (MC)-Product		
1.Ability to develop new products/services.	4.90	0.75
2.Developing new products/services to exploit R&D investment.	4.90	0.79
3. Successfully launching new products/services.	4.90	0.77
4.Ensuring that product/service development efforts are responsive to customer needs.	4.91	0.74
Marketing Capability (MC)-Distribution		
1.Strength of relationships with distributors.	4.88	0.77
2.Attracting and retaining the best distributors.	4.90	0.83
3.Adding value to your distributors' businesses.	4.92	0.77
4.Providing high levels of service support to distributors.	4.89	0.80
Marketing Capability (MC)-Marketing Communication		
1.Developing and executing advertising programs.	4.91	0.83

2.Advertising management and creative skills.	4.92	0.66
3.Public relations skills.	4.92	0.81
4.Brand image management skills and processes.	4.92	0.87
Marketing Capability (MC)-Selling		
1. Giving salespeople the training, they need to be effective capabilities.	4.89	0.80
2.Sales management planning and control systems	4.92	0.81
3.Selling skills of salespeople	4.91	0.80
4.Sales management skills	4.92	0.78
5.Providing effective sales support to the sales force	4.94	0.84
Marketing Capability (MC)-Marketing Planning		
1.Marketing planning skills	4.89	0.73
2.Ability to effectively segment and target market	4.89	0.74
3.Developing creative marketing strategies	4.92	0.80
4.Thoroughness of marketing planning processes	4.93	0.86
Marketing Capability (MC)-Marketing Implementation		
1.Allocating marketing resources effectively.	4.89	0.81
2.Organizing to deliver marketing programs effectively.	4.90	0.72
3.Translating marketing strategies into action.	4.90	0.87
4. Executing marketing strategies quickly.	4.93	0.82
Overall Mean	**4.91**	**0.78**

Table 28 presents the average mean score of Marketing Capability at the "Agree" level (X = 4.91, SD = 0.78). All statements are interpreted as the agree level (X = 3.41-4.20). The statement with a highest agree level mean value is "Providing effective sales support to the salesforce" (X = 4.94, SD = 0.84). The statement with a lowest agree level mean value is "Strength of relationships with distributors." (X = 4.88, SD = 0.77).

Table 29 Firm Performance (Survival) (FP-S) Descriptive Analysis (N = 237)

Items	Mean Value	Standard Deviation
Firm Performance (Survival) (FP-S)-Perceived Survival		
1.My firm will survive the current economic crisis.	4.57	0.70
2. My firm possesses the ability to withstand the challenges of the current economic crisis.	4.58	0.73
3. My firm is in a good position to address the slowdown in business activity currently being experienced as a result of the economic crisis.	4.51	0.70
4.As a result of the economic downturn, selling prices have decreased in the last three months, but sales will recover back to pre-crisis levels.	4.47	0.66
5. My firm will continue business operation in next five years.	4.43	0.66
6. My company will have more customers.	4.16	0.47
7. My firm will be able to reduce the cost through the advancement of technology and communication.	4.46	0.64
Firm Performance (Survival) (FP-S)-Subject Survival -Dummy variable		
1. My firm is in a good position to address the slowdown in business activity currently being experienced as a result of the economic crisis.	4.52	0.77

2. Sales volume may have decreased in the last three months as a result of the economic crisis, but sales will rebound back to pre-crisis level.	4.58	0.79
3. Although the economy is downturn, my number of active customers are not much reduced.	4.49	0.78
4. Compare to the prior economic downturn, my company can maintain the optimal gross profit margin.	4.44	0.78
5. My firm can control the operational cost to ally with the current sales volume.	4.36	0.66
6. My business can always acquire new customers.	4.24	0.41
Overall Mean	**4.45**	**0.67**

Table 29 presents the average mean score of Firm Performance (Survival) at the "Agree" level (X = 4.45, SD = 0.67). All statement is interpreted as the agree level (X = 3.41-4.20). The statement with a highest agree level mean value is "Sales volume may have decreased in the last three months as a result of the economic crisis, but sales will rebound back to pre-crisis level." (X = 4.58, SD = 0.79). The statement with a lowest agree level mean value is "My company will have more customers." (X = 4.16, SD = 0.47).

Model Measurement and Thresholds

This research applied the Structural Equation Modelling (SEM) method using ADANCO version 2.2.1 for the structural equations (Henseler, 2014). ADANCO uses a composite-variance based modelling approach for the test of hypothesis without imposing a normality condition of the data (Sekaran & Bougie, 2010). ADANCO implements several limited-information estimators, such as partial least squares path modelling (also called PLS modelling, PLS-SEM, or simply PLS) or ordinary least squares regression based on sum scores (Hair et al., 2011).

The correlation between latent variables and observed variables are reflective constructs. A two-steps analysis has been conducted. The researcher begins with the first step by assessing the structural model quality, which includes the measurement of reliability and validity of the constructs (Nunnally et al., 1967). The second step was to identify the model fit, path analysis, and estimate the model parameters. Therefore, to measure the model, acceptable statistics thresholds are determining as shown in Table 30.

Table 30 Structural Equation Modelling measurement and acceptable thresholds

Measurement	Indicator	Acceptable Thresholds
Construct reliability	Cronbach's Alpha	0.6 to 0.70 is acceptable (Hair et al., 2011) > 0.70 is enough for research (Henseler et al., 2015; Werts et al., 1974)
	Indicator reliability	> 0.70 and significant at least 0.05 level (Bagozzi & Yi, 1988; Barclay et al., 1995)
	Composite reliability	Jöreskog's rho (ρc), Dijkstra-Henseler's rho (ρA) must be more than 0.7 (Fornell & Larcker, 1981)
Convergent Validity	Average Variance Extracted (AVE)	> 0.50 (Hu & Bentler, 1999)
Discriminant Validity	Fornell and Larcker, Heterotrait-Monotrait Ratio of Correlation (HTMT)	The square root of the AVE of a construct should be more than the correlations between the construct and other constructs (Meinshausen & Rice, 2006).
Fit Index	Goodness of model fit GoF (SRMR)	< 0.08 (Hair et al., 2011 ; Nunnally et al., 1967)
Model Validity	Structural Equation Modelling (SEM)	t-value for a two-tailed test are 1.65 (sig = 0.1), 1.96 (sig=0.05) and 2.58 (sig=0.01) (Henseler et al., 2015; Werts et al., 1974)

Construct Reliability

Model reliability indicates the construct's internal consistency. Cronbach's Alpha was used to assess internal consistency. A minimum of 0.7 is required to show Dijkstra & Henseler (2015). Jöreskog's rho (ρc), which is used as the composite reliability indicators also regards as the construct's reliability, and the composite reliability values greater than 0.7 are accepted as the indicator of reliability and homogenous construct (Hair Jr et al., 2016). (Fornell & Larcker, 1981) claimed that their rho (ρA) is the most reliable test for consistent reliability with a minimum score of 0.7. Table 26 below shows that all three components value are more significant than 0.7, which is considered an acceptable internal consistency.

Convergent Validity

The variable indicators can be measured by convergent validity. Convergent validity is the degree to which a measure correlates positively with alternative measures of a similar construct. The reflective construct indicators are treated as different alternative ways to deal with measure the same construct. In this manner, the items that are indicators or measure of a particular reflective construct should combine or share a high proportion of variance. To assess the convergent validity of reflective constructs, the researcher considers the outer loadings of indicators and the Average Variance Extracted (AVE).

Fornell and Larcker (1981) suggested that the minimum cut of value for each latent construct’s Average Variance Extracted (AVE) should be 0.50, the items loading less than 0.50 should be removed (Hu & Bentler, 1999). Therefore, the results in this research confirmed the high reliability of the latent constructs. All AVE scores are above 0.50, and item loadings of other internal consistency indicators shown in table 31 are more significant than 0.70, which also confirmed the high internal consistency of the constructs.

Table 31 Overall Construct Reliability Loading and Convergent Validity

Construct	Item Loading	Dijkstra-Henseler's rho (ρA)	Jöreskog's rho (ρc)	Cronbach's alpha(α)	AVE
Entrepreneurial Orientation (EO)		0.93	0.93	0.92	0.42
-Autonomy	0.58				
-Innovativeness	0.71				
-Risk Taking	0.73				
-Proactiveness	0.69				
-Competitive	0.41				
Digital Transformation (Technology Readiness) (DT-TR)		0.96	0.96	0.95	0.42
-Optimism	0.60				
-Innovativeness	0.68				
- Discomfort	0.72				
- Insecurity	0.50				
Customer Value Co-creation Behaviors (CVCCB)		0.95	0.95	0.95	0.56
-Information Seeking	0.80				
- Information Sharing	0.77				
-Responsible Behavior	0.74				
-Personal Interaction	0.68				
Marketing Capability (MC)		0.98	0.98	0.98	0.61
-Pricing	0.71				
-Product	0.76				
-Distribution	0.79				
-Marketing Communication	0.80				
-Selling	0.81				
-Marketing Planning	0.78				
-Marketing Implementation	0.81				
Firm Performance (Survival) (FP-S)		0.91	0.92	0.90	0.46
-Perceived					
-Subjective	0.65				
	0.70				

Discriminant Validity

Discriminating validity values show the degree of discrimination between variables. ADANCO examines the biased significance by looking at the measured value for each factor with other constructs. The AVE value's square root should be higher than the other variable's AVE Hooper, Coughlan, & Mullen (2008). Table 32 shows the consequences of the discriminatory validity tests and show that discriminatory validity is appropriate. Both diagonal values surpass inter-constructed correlations demonstrating acceptable discriminatory validity. As a consequence, it can be concluded that the measurements should have sufficient construct validity.

Table 32 Discriminant Validity

Construct	EO	DT-TR	CVCCB	MC	FP-S
EO	**0.58**				
DT-TR	0.32	**0.71**			
CVCCB	0.30	0.28	**0.70**		
MC	0.22	0.24	0.63	**0.84**	
FP-S	0.24	0.20	0.15	0.13	**0.88**

Squared correlations; AVE in the diagonal

Model Fits

This study used ADANCO 2.1.1, the structural equation modelling (SEM) software to identify the model fit as well as hypothesis testing.

The model fit test typically refers to how well the data observed corresponds to the fitted model. In contrast, the goodness of the model fit test measures the observed values to the anticipated (equipped or predicted) values. Standardized Root Mean Squared Residual (SRMR) quantifies how much the empiric correlation matrix varies from the model implemented correlation matrix (Leoutsakos, 2006). As can be inferred from its description, the SRMR is the square root of the sum of the squared differences between the model implemented correlation matrix and the empiric correlation matrix. The lower the SRMR, the

more the theoretical model matches. A value of 0 for the SRMR will imply a perfect fit, and, in general, and SRMR value of less than 0.08 is appropriate as suggested by (Hu & Bentler, 1999). In running ADANCO, the researcher had selected the option “assess model fit” in the Run dialog. ADANCO 2.1.1 has provided bootstrap based 95% (“HI95”) and 99% percentiles (“HI99”) for the SRMR if the theoretical model was accurate.

The researcher had redesigned the original model to find the best goodness of model fit. As recommended by (Dweik & Suleiman, 2013) on how to improve model fit, items with low loading have been removed from the analysis as this is an indication of high levels of error, following with deleting the indiscriminate items fit. Model 1, model 2, and model 3 have been identified. Model 1 with the original model concept gave the GoF value 0.67; the researcher had removed 1 EO observe variable (acquisition), then it gave the GoF value 0.19 which is still does not meet the GoF criteria. The researcher had further removed the observed MC variable (Social Influence) because those items are particularly weak. The EO Acquisition and Social Influence observe variables gave the low loading may be because they possibly are high correlated. Loadings represent the degree to which each of the items correlates with each of the factors Paegelow (2008). From the researcher's point of view, although the items had been carefully selected from the reliable previous research and use the back-translation method by professional to minimise the error. However, the language translation between cultures may still possibly have some problem because 1) lack of familiarity with cultural expressions 2) failure to achieve the equivalence in the second language, 3) unclarity of some artistic expressions, 4) lack of insight of translation techniques and translation strategies (Francoise, 2018). As recommended by (Behr, 2017) a back-translation should be done by a professional translator and edited by a second expert. The full-back translation method involved with the very high cost and time-consuming but still cannot be covered with all errors (Dowling et al., 2019). While back translation can uncover problems, it causes quite a several false alarms, and even more importantly, many issues remain hidden (Hair et al., 2011; Ziggers & Henseler,

2016). Nevertheless, back translation is still the most appropriate method for cross-culture translation available at the time being. This methodology is also adopted to use in the modern day's artificial intelligence and machine learning's inter-cultural reading (Chin et al., 2003; Lohmöller, 2013). Table 33 indicates the model fit.

Table 33 Model fit

	SRMR	HI95	HI99
Value	0.07	0.06	0.06

Therefore, finally, Model 3 had been selected because the SRMR value was 0.07, which met the criteria for the model fit, the results are shown in Table 34, and Figure 2 illustrates the selected Structural Equation Model (SEM).

Partial Least Square-Structural Equation Model (PLS-SEM)

Partial least squares (PLS) is a universally accepted variance-based, descriptive and predictive approach to SEM (Chin et al., 2003). The advantage of this method is that population distribution is not subject to restrictions, so exploratory and confirmatory research can be conducted (Henseler, 2014; Henseler et al., 2016; Ziggers & Henseler, 2016). The PLS path model consists of two parts. The structural part identifies the relationship between latent variables, while the measurement part identifies the relationship between latent variables and their observed or manifest variables. PLS describes weight relationships that are used to approximate case values for latent variables, a functionality not found in other SEM approaches (Fichman, 1999; Frost, 2013). PLS focuses on maximizing the explanatory strength that independent variables can have for the variance present in the dependent variables. Furthermore, formative and reflective constructs can be blended into one model when PLS is used for the analysis. PLS will not rely on distributional assumptions and is recommended for examining small-to-medium-sized samples. Using ADANCO for PLS path modelling provides three advantages. First, the measurement model can be used to assess construct reliability and

validity. Second, model fit can be validated through overall model assessment, and third, the structural model can be used for hypothesis testing (Bollen & Pearl, 2013; S. L. Morgan, 2013).

Primary data gathered were modelled utilizing a structural equation (SEM) modelling tool, ADANCO version 2.1.1 statistics package. ADANCO uses a composite modelling approach in hypothesis testing, wiping out the burden of normality conditions to data. The data analysis was performed first by modeling an estimated structural model and afterward by deciding the best decency of model fit by determining reliability and validity, trailed by path analysis investigation and estimating model parameters as the result appeared in figures 2

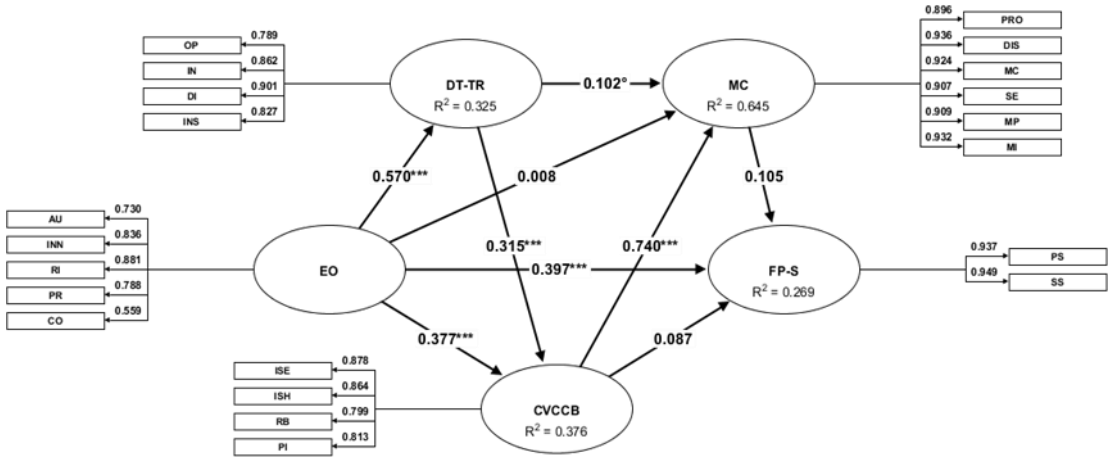


Figure 2 Partial Least Square-Structural Equation Model (PLS-SEM).

The Structural Equation Model shows the quality of the path coefficient. Figure 2 shows a hypothesis testing as the outcome appeared in table 34. Because of the hypothesis testing, five hypotheses have a significant relationship between latent variables with a p-value below 0.05. Two of the hypotheses were not statistically significant. However, the explained variance of the predictors (R^2) was low to moderate level. In this study, the researcher limits the latent variable for three constructs, which are shown in previous researches that are the predictor of real estate business survival performance in the disruptive digital transformation era. Adding more latent variables could increase the explained variance of the predicting factors. This study's results showed statistically significant predictors, from which essential conclusions can

be drawn about how predictor values are associated with competitive advantage and business performance. Additional qualitative research might give more insight into, yet unknown, explanatory variables. Nevertheless, studies on human attitudes and social science, in general, show a relatively low R^2 values (Campbell-Hunt, 2000).

Table 34 Path Coefficient and Hypothesis Testing Results

Effect/ Hypothesis	Original Coefficient	Mean value	Standard error	t-value	p-value (2-sided)	Interpretation
H1 EO → DT-TR	0.57	0.57	0.05	10.43	0.00	Accept
H2 EO → MC	0.00	0.00	0.07	0.10	0.91	Reject
H3 EO → CVCCB	0.37	0.37	0.08	4.43	0.00	Accept
H4 EO → FP-S	0.39	0.39	0.07	4.26	0.00	Accept
H5 DT-TR → CVCCB	0.31	0.31	0.06	4.97	0.00	Accept
H6 DT-TR → MC	0.10	0.10	0.05	1.81	0.06	Reject
H7 CVCCB → MC	0.73	0.73	0.07	10.20	0.00	Accept
H8 CVCCB → FP-S	0.08	0.08	0.08	0.97	0.32	Reject
H9 MC → FP-S	0.10	0.10	0.08	1.19	0.23	Reject

From the Structural Equation of Real estate survival model testing, it was found that the Entrepreneur Orientation effect on Digital Transformation (β=0.57, P<0.00), Customer Value Co-creation Behaviors (β=0.37, P<0.00) and only factor with a positive effect on firm performance (survival) is Entrepreneur Orientation (β=0.39, P<0.00). Therefore, accept

hypotheses H1, H3, and H4. But it has not positive effect on marketing Capabilities (β=0.00, P>0.00), reject hypotheses H2.

The factors with a positive impact on Customer Value Co-creation Behaviors is Digital Transformation (β=0.31, P<0.00), accept hypotheses H5. Moreover, Digital Transformation (β=0.10, P<0.00) and Customer Value Co-creation Behaviors (β=0.74, P<0.00) positive impact on Marketing Capabilities. Therefore, reject hypotheses H6, accept hypotheses H7. However, surprisingly, it was found that Marketing Capabilities (β=0.07, P<0.25) and Customer Value Co-creation Behaviors (β=0.10, P<0.23) do not improve firm performance (survival), reject hypotheses H8 and H9.

The Structural Equation found that the factor with a positive effect on Entrepreneurial orientation is only Digital Transformation (Technology Readiness). The factors with a positive impact on firm performance (survival) are Entrepreneurial orientation and Customer Value Co-creation Behaviors. However, Marketing Capabilities do not positively affect the firm performance (survival). The Entrepreneurial orientation, Digital Transformation (Technology Readiness) and Customer Value Co-creation Behaviors, has a positive effect on Marketing Capabilities. The Entrepreneurial orientation and Digital Transformation (Technology Readiness) has a positive effect on Customer Value Co-creation Behaviors.

Chapter 5: Discussion and Recommendation

Demographic Frequency Analysis

The research identified Entrepreneurial Orientation (EO), Digital Transformation (Technology Readiness) (DT-TR), Marketing capabilities (MC) and Customer Value Co-creation Behaviors (CVCCB) as independent variables, whereas Firm Performance (Survival) is dependent variable. The survey has been conducted among Real Estate Company in Thailand and received 237 completed sets of questionnaires.

The general demographic of the respondents (n=237) was mostly man (53.59%), age 36-40 years old (35.02%), and identified themselves as manager (27.85%). The details of respondents and business profiles were as illustrated in the findings and analysis chapter.

This respondent's profiles are fit with the definition of Real Estate Company in Thailand. According to the Real Estate Company in Thailand, Real Estate businesses are classified as business units with less than 50 employees. The company should employ between 50-200 employees, Fawaz, the leading real estate marketplace to buy, rent and sell property in Thailand in Business report discloses that Thailand has a more significant percentage of male more than female in real estate market in Thailand. The definition shows that the respondent's profile and business characteristics fit with Real Estate Company characteristics and can reflect the results of the conceptual framework model testing based on Real Estate Company features, which have been discussed below.

Descriptive Analysis

From the descriptive analysis, it is to note that the items “My company will have more customers.” (X = 4.16, SD = 0.47), from Firm performance(survival) construct and “For higher prices, I often set prices below competitors.” (X = 4.04, SD = 0.23) from Entrepreneurial Orientation construct has the lowest mean value, compare to other items and overall mean value of each construct. These two items asked about in what the above results show that in

the current economic situation. Real estate companies had fewer customers because they keep more cash than investing in condominium and residential. Reducing prices to increase sales did not help the organization survive this economic crisis. In which the organization can increase sales real inventory reduction but not profitable. Since the beginning of last year economic toxicity from the Covid-19 virus had a tremendous impact on business sectors around the world the real estate business itself is one of the businesses that have been heavy impact as well by the real estate business in Thailand had reduced purchasing power by more than half especially large customer groups like Chinese. In addition, the event continued to drag for several months. Therefore, affecting the domestic market as well by both large buyers such as entrepreneurs or business owners and retail buyers, such as employees of the company, were inevitably lacking liquidity, which inevitably led to a decrease in their domestic purchasing power had created a huge turning point for the Thai real estate business since the beginning of the disease epidemic causing the need to lock down the country. There was social distancing or social distancing, giving rise to the new normal when buyers are afraid to leave the house. As a result, entrepreneurs had to adapt themselves to survive. They attempted to develop product sales through online platforms to reach customers across all channels. Along with a wide variety of strategies to stimulate sales and we, as buyers, needed to learn more, before one decides to buy or invest as well. Because this business is not just for living only. There is also a commercial investment part.

The researcher believes the marketing capabilities was one of the major issues for real estate business in business management. This finding confirmed the previous study that Thailand real estate companies were facing at least 2 major issues, namely: high operating cost and high competition. Most of Thailand real estate companies, due to the greatly reduced price. It was a good opportunity for people who wanted to buy a condo to live. But for investors, both speculative and renting should be careful about finding potential buyers or tenants. Because

the liquidity in the market was low. As a result, the opportunity to release the room for a short time was also reduced, investors needed to be ready and stable in terms of their financial status.

Although most of Thailand real estate companies were adopting online marketplace, and technology marketing, it seemed like most of Thailand real estate companies did not have a substantial product differentiation and uniqueness. The researcher recommends Thailand real estate company owners to leverage the advancement of digital technology such as using more information technology, automatic system and smart home system in managing the business by application. The information technology adoption would help Thailand real estate business owners to get the real time business information and improve the inventory management. Thailand real estate company owners can also improve the quality of product and service for the sustainable competitive advantage and benchmarking with competitor. For policymakers, the researcher suggests that to help Thailand real estate companies in cost control, there should be a combined all-system-in-one application to help customer easy to access.

As real estate projects were creating their own market positioning to focus on today's highly diverse and complex new market segments full of lifestyle segments. A wide variety of technology that was greatly influenced by the rapid development of technology and rather than by age or gender grouping as in the past, whether it was the millennials, startups, geeks, nerds, or freelancers who had not have the previously understood behaviors just eating and sleeping, but perhaps eating, sleeping, working, relaxing, and playing. Sports, social media, etc. Therefore, many project developments models, whether they are residences, hotels, office buildings, etc., had been combined with special benefits. (That may be regarded as old now) such as co-working space, co-kitchen space, co-storage additional to the project or providing state-of-the-art amenities such as a voice control system, operation system with applications, energy calculation system, electric vehicle charging system, automatic parking system, online shopping systems, etc. At the heart of the project development is not just the designation of new areas or technology, but on a thorough understanding of the different needs of the customer

that will determine creativity. Technology or living space that is more suitable for the customer group, so it may not be surprising to have the opportunity to see new areas in the future other than what has been seen before, e.g., co-party space, co-business space, co-living space, co-garden space, or even co e-port space, or maybe any special system that any operator would create to be concrete to meet different needs. In summary, when technology changes, the way of life has to change so entrepreneurs have to be open-minded, diligent to learn and understand the difference, and the uniqueness of each person (individualism) always in order to adapt the business model to be in line with the changing market.

"Disruptive Technology" or technology that changes the world is a concept that has been discussed. For more than several decades in academic circles, but in the past, not much has seen a clear picture of such a concept. Because there has not been as many world-changing technologies as in today's world where technology has evolved significantly by leaps and bounds. Resulting in rapid change to various businesses such as the banking revolution, revolution in print media, etc. Therefore, real estate business It is also inevitable that the confrontation of such change cannot be avoided. By for perspective on the real estate sector with the change here It will not focus on new technologies in the industry, but instead will focus on demonstrating. Business models that need to be changed due to the advancement of technology affecting consumer behavior. The real estate business analysis may be divided into two main sectors: Commercial Real Estate and Residential Real Estate. Smart home innovations will help make people's daily life more comfortable and in a short time. The price of these devices, it will be more tangible, whether it be Blockchains, Big data, AI, Machine learning, 3D printing, Internet of Things (IoTs) and many others, all of which these technologies have impacts on us in various dimensions and many different elements of such technology. But one of the most popular innovations, it will have a significant impact on everyone's life is the application of the concept of "Internet of Things" to various devices in

the daily life that surrounds us especially the devices within the house also known as "Smart home “in Digital Transformation era.

Factors influencing Firm Performance Survival (FP-S)

The factor with a direct effect on Firm Performance Survival (FP-S) is Entrepreneurial Orientation (t-value = 8.99, sig.= 0.00) and Customer Value Co-creation Behaviors (t-value = 3.29, sig.= 0.00). This may be because Entrepreneurial Orientation and Customer Value Co-creation Behaviors are a new concept of business practice at the time of the survey conducted. Those Real Estate Company in Thailand who practice Entrepreneurial Orientation and Customer Value Co-creation Behaviors may gain a Firm Performance (Survival) over their Survival.

Marketing Capabilities does not significantly influence on Firm Performance (Survival) (t-value = 0.98, sig.= 0.33). This may be because Real estate business operators must have vision, prepare for changes after covid19 and economic crisis. Many brands see that there will be a New Normal whether it is changing consumer needs, such as organizations and employees are increasingly adapting to work from home, causing the function of using the living space to change like people are more daring to buy homes that are far away from work. They need a large living space and greater flexibility, such as having space in the room for eating, sleeping, working and exercising. Therefore, the equipment in the room must have more functionality than before including the transformation of common space design. Co-space is a co-separate space created by designing where people sit separately in the same common area. In order to meet more health and safety needs and use various technologies to meet the needs of life without touch (Touchless), whether it is a scanning system from face recognition (Face Recognition) or a voice command system (Voice Command) for use in common areas such as elevators. For example, it is expected that we will see the design of the use of the space in the room and the use of new common areas. That is sure to meet the needs of post-COVID-19 life.

Covid19 and economic crisis this is likely to have a long-term impact. As a result, property developers, both large and small, have to accelerate their adjustment greatly. In addition to having to accelerate adjustments to generate current sales and to maintain a relationship with the residents still have to foresee the future in the future that people's lifestyles will change due to the crisis in this time. Property Investment Analysis Program Online would like to encourage everyone to get through this crisis to be and recommend that property investors including operators Regularly manage property portfolios of regularly so that you can adapt immediately with crisis and survival in crisis.

Entrepreneurial Orientation and Customer Value Co-creation Behaviors plays a vital role in Firm Performance (Survival). The researcher believes it is because the respondent demographic is in the Entrepreneur and Customer, which requires a strong relationship with customers by business nature. Customer Co-creation involves acquiring, storing, sharing, and applying customer knowledge to improve or maintain their firm performance. Personalized custom-made co-creation level will also improve the impressive service quality to gain customer retention and new customer acquisition from customer journey and experience. In the uncertain economic crisis situation, to retain existing customer's need may be easier than finding new customers. These are the reason that Entrepreneurial Orientation and Customer Value Co-creation Behaviors has a substantial impact on Real Estate Company in Thailand firm performance.

Factors influencing Digital Transformation (Technology Readiness) (DT-TR)

The factor with a direct effect on Digital Transformation (Technology Readiness) was only Entrepreneurial Orientation (t-value = 11.51, sig.= 0.00).

Before Covid19 crisis, it had been observed that real estate brands adjusted to add online marketing channels already, whether it is a 360-degree home viewing through the website, online booking through the website of the project owner and various e-commerce sites

such as Shopee or Lazada. But in the Covid-19 crisis, this sudden incident caused digital disruption in the real estate industry where all brands are ready to sell real estate. Through all channels, be it FB Live, Line OA, Website, Tiktok, etc., it can be said that in the Covid19 crisis, until after this era consumers will likely be familiar with spending time shopping for real estate online. For example, Ananda has opened a 24-hour real estate sales channel through "Ananda iStore" with 3 online channels: Facebook, website and Line OA "Chat & Shop". Or Origin Property Public Company Limited that opened an Official Store on Shopee and Lazada platforms. In the uncertain economic situation, to retain existing customer's application may be easier than finding new customers. These were the reasons that Digital Transformation had a substantial impact on Thailand real estate performance.

Factors influencing Marketing Capability (MC)

The factor with a direct effect on Marketing Capability (MC) was Entrepreneurial Orientation (t-value = 5.84, sig.= 0.00), Digital Transformation (Technology Readiness) (DT-TR) (t-value = 5.41, sig.= 0.00) and Customer Value Co-creation Behaviors (t-value = 7.68, sig.= 0.00). This might be because Entrepreneurial Orientation, Digital Transformation (Technology Readiness) (DT-TR) and Customer Value Co-creation Behaviors were a new concept of business practice at the time of the survey conducted. Those real estate companies in Thailand who practiced Entrepreneurial Orientation, Digital Transformation (Technology Readiness) (DT-TR) and Customer Value Co-creation Behaviors might gain a Marketing Capability (MC) over their Survival.

In the era of Covid-19, many businesses had to shut down. Many jobs that were not required during lockdown could be suspended causing property operators to use property people, employees in the organization for maximum efficiency to support the organization. Therefore, one employee was no longer a single job. Changing employees to micro-influencers sells properties through their own marketing channels to increase marketing channels and

generating income for organizations and employees from the original with about 250 sales and marketing from more than 1,200 affiliated employees, but there came a point where everyone had become an online real estate seller.

Factors influencing Customer Value Co-creation Behaviours (CVCCB)

The factor with a direct effect on Customer Value Co-creation Behaviors (CVCCB) was Entrepreneurial Orientation (t-value = 6.68, sig.= 0.00) and Digital Transformation (Technology Readiness) (t-value = 4.86, sig.= 0.00). This might be because Entrepreneurial Orientation and Digital Transformation (Technology Readiness) were a new concept of business practice at the time of the survey conducted. Those real estate companies in Thailand who practiced Entrepreneurial Orientation and Digital Transformation (Technology Readiness) might have gained a Customer Value Co-creation Behaviors (CVCCB) over their Survival.

Creating a Customer Loyalty is very important to real estate business. Because they are the voice to recommend the brand to your friends or a customer who will come back to buy the company's products again. Property brands, all of them have to take good care of their customers, especially residents in homes that seem to be at high risk. For example, condominiums that are the main product in the property market to maintain relationships and build trust with the resident’s property brands. Therefore, measures are made to maintain cleanliness and safety. By setting the time to use common areas, Masking Set a screening point and placing hand sanitizer to serve the residents within the project. Including special measures. For residents with fever or suspect that there is a risk, just contact the juristic person of the project. Increase the confidence of new residents using innovative UVC Technology, ultraviolet sterilization technology Coverage of Covid19 and bacteria that has been tested and approved by the Communicable Disease Prevention Agency in the United States (CDC) to prevent COVID-19 up to 99.9%. 2,400 units and all units ready to move in this year.

Theoretical implications

Such results include theoretical and empirical literature reviews to better understand the firm performance (survival) variables and their effect on competitive advantages were built to evaluate differentiation, cost leadership and focus (Day, 2011; Vorhies & Morgan, 2005). Since businesses may either follow one competitive strategy over another or implement a combination of competitive strategies collectively. Previous studies suggested concentrating on such marketing capabilities, businesses can enhance their efficiency.In answer, and in consideration of this discussion, this research proposes(Hurley & Hult, 1998; Naidoo, 2010a, 2010b). A second contribution provides marketing capabilities are the processes by which businesses select planned value proposals for target customers and system and networks to achieve specific targets to achieve these value offers(Weerawardena, 2003b, 2003a). This study provides a clearer understanding between Customer Value Co-creation Behaviors (CVCCB) and Firm Performance (Survival) (FP-S) of the organization to new consumer demands and new business processes, market orientation can thus serve as a base for innovation. In other words, a critical part of the early stages of innovation can be a business orientation (Weerawardena, 2003b, 2003a). A third aspect contributes to the Entrepreneurial orientation is claimed to positively affect innovative firms' marketing capabilities(Weerawardena, 2003b, 2003a). It also provides evidence that Entrepreneurial orientation and customer co-creation are vital sources to enhance a firm performance survival, possibly improving digital innovation capacity and marketing results in real estate business. The digital tranformations such as adoption of digital knowledge management as well as crowdsourcing are the vital process for the future business tranformation (Phayaphrom et al., 2021).

Managerial implications

Besides these academic contributions, this study also has interesting it can be noted that many companies and new investment projects have focused on "Affordable Segment" e.g., customers with limited purchasing power. There is a need to buy a residence and a group of

many customers in the market. Therefore, the real estate operator, affordable price is set at a price level ranging from over 1 million baht to 3 million baht to meet the economic slowdown and lower income of buyers at the same time entrepreneurs still have enough "profits" and creating a Customer Loyalty is very important to real estate business by changing employees to Micro-Influencer sells properties through their own marketing channels to increase marketing channels and generating income for organizations and employees from the original.

Thailand real estate company do not have a substantial product differentiation and uniqueness. As real estate projects are creating their own market positioning to focus on today's highly diverse and complex new market segments full of lifestyle segments. A wide variety of technology that is greatly influenced by the rapid development of technology and rather than by age or gender grouping as in the past. For more than several decades in academic circles, but in the past, not much has seen a clear picture of such a concept. Because there has not been as many world-changing technologies as in today's world where technology has evolved significantly by leaps and bounds. Most of Thailand’s real estate companies, due to the greatly reduced price, have a good opportunity for people who want to buy a condo to live. But for investors, both speculative and renting should be careful about finding potential buyers or tenants. Because the liquidity in the market is low. Real estate business operators must have vision, prepare for changes after covid19 and economic crisis. Many brands see that there will be a new normal whether it is changing consumer needs and behaviour.

Conclusion

The research findings indicated that to manage the business during the Covid-19 and economic crisis in the digital transformation era is the most critical factor to business firm survival. Real Estate Business Strategy to survive and grow in a crisis and profit keeping guidelines for maintaining profitability of real estate business. In a crisis, it is mainly done by finding ways to reduce costs and use the resources available in the organization for maximum efficiency with the following guidelines by asking employees in the organization to do more

diverse work and came to work on some of the missions that previously hired outsiders to operate, such as designing online advertising media. Change from outsource companies to in-house employees in the organization to do it by themselves. Especially during this period if working from home. It is the development of new skills for employees as well.

Real estate business operators must have vision, prepare for changes after covid19 and economic crisis. Many brands see that there will be a New Normal whether it is changing consumer needs, such as organizations and employees are increasingly adapting to work from home, causing the function of using the living space to change. Time management for project development to be on target in times of crisis The Company's construction and other tasks are reduced more than usual. This allows for better time to look after the work process. Controlling construction and other operations in a given time or faster is the other way to reduce costs.

One of the strategies to do is to review what the business does, past and present. During a crisis it may be a good opportunity to expand or spread the risk to new businesses or new markets, such as where some Real Estate has expanded its business from real estate development to hospital business or the Dusit Thani Hotel is expanding the business into the restaurant business and food production.

Digital transformation and Innovation in times of crisis, it will help create incentives for businesses to adopt innovation. Both in the field of innovation in construction project management and marketing communication. For example, during this time many organizations use software to support their work-from-home processes. Working or meeting together without needing to be in the same place will become the new standard of work. This will reduce travel time and costs. Maybe it could be seen in the future that real estate sales people would talking to customers. They can introduce customers to visit the project online where they both had no one at the job site. Customer co-creation involves acquiring, storing, sharing, and applying customer knowledge to improve or maintain their firm performance. As real estate projects are creating their own market positioning to focus on today's highly diverse and complex new

market segments full of lifestyle segments. A wide variety of technology that is greatly influenced by the rapid development of technology and rather than by age or gender grouping as in the past.

Moreover, currently, Thailand is facing the economic recession due to internal factors such as unstable politics and the strengthening of Thai Baht value, affecting the real estate development sector. The excellent point of Thailand real estate firm would be the technology transformation, such as internet coverage, world-class high-speed connection and smart home as well as many marketing capabilities to customer. The fastest technology adoption among co-creation in customer value co-creation behaviors (CVCCB), adoption of entrepreneur orientation (EO), and the use of marketing capabilities as the primary marketing strategy would help increase the real estate firm performance Survival (FP-S).