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Original Research

Investigating the Role of Households' Health Care Expenditures on the Iranian Households' Welfare Using DSGE Framework

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Abstract

Nowadays, the study of the share of households' health expenditures in their total consumption expenditures and its impact on the well-being of households and society has become an important issue as it is applied in policy and planning by government officials. This paper aims to examine the impact of changes in the share of health expenditures in the basket of total household consumption expenditures and to show that small changes in the variable have significant effects on consumption, desirability, and, consequently, the well-being of society. The results of this modelling suggest that a decrease in the share of household health expenditures leads to an increase in other household expenditures and, consequently, increases household welfare by an increasing utility. The reason for this is that by increasing its health and medical expenditures, the household must reduce its consumption of other goods, which decreases its total utility. It should be noted that this decrease is due to the fact that households are less inclined to spend a larger share of their total consumption expenditure on health services. An increase in the share of households' health expenditures in their total expenditures leads to a decrease in welfare, and a decrease in this share increases household welfare. However, factors such as the inefficiency of the insurance system, poor health system monitoring, and problems in accessing and using health services can have a major impact on households' acceptance, desire, and use of health services and should be considered a serious problem.

Keywords: Welfare, Households, Health Care Expenditures, DSGE Framework.

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Introduction

Health is recognized as one of the most important requirements for the social system. In addition to a healthy lifestyle, people need to use health services to promote, maintain, and restore their health. The desire to use services and the demand for services are two concepts that are very close and sometimes even completely linked. From an economic point of view, a person's willingness to use health services depends on the cost of the benefits of the services. On the other hand, purchasing health care services results from the interaction between the demand and supply of health care services, in addition to the individual's desire.

Although the ultimate goal of health interventions and related programs is to improve living conditions, the most appropriate goal for health services is equal access to these services for all people in the country. Such a goal should never be measured by reductions in morbidity or mortality but should be analyzed in terms of the access, desire, and motivation of people from diffrent social classes or geographic areas to health services and facilities (Chou, 2007).

Adopting the wrong strategy in the health sector and household health, in addition to reducing the consumption of some goods and services, can also lead to discontinuing the consumption of some goods and services in the basket of goods of the whole household. It is important to know that reducing or increasing the consumption of health goods and services in society will lead to changes in the welfare of society. For this reason, economic and health policymakers and planners are interested in analyzing the consumption patterns of households in society and identifying what place each good, and medical service occupy in the household budget. On the other hand, consumer behavior in different regions of the country regarding health services is very doubtful despite small differences, so by studying the economic behavior of Iranian households, we can provide a useful model and tool for policymakers in these sectors.

Considering this importance, this study examines the pattern of health care spending in the consumption basket of all households using a dynamic stochastic general equilibrium model for the Iranian economy. This paper attempts to model the issue of household, firm, and government policies according to the standard models in the economic literature and to examine empirically, estimate, and analyze these equations. The data required are quarterly data from 1997 to 2020 obtained from the Statistical Center of Iran, the Central Bank, international financial statistics and the World Bank as needed.

One of the most important challenges for political and economic leaders of countries is adequate access to health goods and services for all people in society because, in this case, the movement towards development can be accelerated. On the other hand, a key factor in ensuring proper access to health care is how the use of these goods is financed. That is, if people are unable to finance the purchase of health goods and services, they may use nonstandard goods that cost less, or they may reduce their use to lower than optimal levels or forgo the use of these services altogether (Zare et al., 2013).

In general, individuals' behavior and socioeconomic characteristics encompass various factors that affect demand for health care services, with health status, income, and education among the most important factors. Health status and education inevitably affect the benefits of seeking medical services, such that individuals with higher education are more likely to seek health care services (Mehrara and Fazaeli, 2010).

The extent to which education affects a person's desires varies depending on their socio-economic conditions. Therefore, income is also important because it plays a critical role in an individual's ability to pay and predict the benefits of using health care services (Rous and Hotchkiss, 2003).

People of different ages and genders also have different predictions about the costs and benefits of services, which affects their demand for services and, consequently, their health and productivity. The cost of health care often increases with an individual's income. After income, insurance coverage, the age structure of the population, and access to health care services are also cited as factors influencing health care costs (Bolin et al., 2001).

Household health care costs refer to all household economic contributions to the health care system, which are divided into out-of-pocket payments and prepayments (PP). Out-of-pocket payments are payments made by a sick person when receiving services. Prepayments are contributions through general taxes, taxes on bills, and mandatory and voluntary insurance (Cantarero, 2005).

Most studies of health care costs generally use the individual (the person) as the unit of analysis. In many of these studies, the individual has been viewed as a producer of health care commodities. This commodity is part of society's human capital and affects the total time people spend producing wealth. Although these studies have provided the basis for large-scale economic studies in the field of health economics, they ignore the fact that each individual is a member of the same family and is strongly influenced by other family members. This means that people's use of health care services depends on the circumstances of the entire household, which includes communication among them and the characteristics of each individual. Therefore, it is better to consider the household as a health-promoting unit rather than as an individual (Parker and Wong, 1997).

Di Matteo (2003), Xu et al. (2007), Waters et al. (2004) and Meyerhoefer et al. (2007) have emphasized the importance of the role of education, income, and health status of the household on health costs in their studies on health costs, and have shown that the behavioral patterns of health costs differ among countries. This group of countries provides a wide range of goods and services to their citizens for free or low cost, including health care, education, social security, and employment. They showed that examining the socioeconomic factors that affect health care costs in countries can provide useful information on the functioning of the insurance system, resource allocation, and the need for investment in different sectors for domestic policy and planning.

Sanwald and Theurl (2015) studied the modelling of household health care costs both theoretically and experimentally. Their results show that increasing the guardian's transfer payment to the child, lowering the minimum requirements for health care goods, and

increasing the wage gap of workers lead people to be present in a wider range of prices in the health care market and to have a non-zero demand for the corresponding items.

Giammanco and Gitto (2019) have studied the impact of infrastructure aspects of health care costs on the development of European countries. Their findings are consistent with the idea that health is part of the human infrastructure and is influenced by public policies and governments. Health resource infrastructure, facilities, and systems are key issues in countries.

Phua (2018) examines governance issues in financing health care costs. He concludes that external factors, as well as poor performance of healthcare providers lead to additional costs for the recipients of these services, making the need for government intervention in health care expenditure financing undeniable.

It is worth noting that health is one of the categories managed by governments in most countries. This means that people's health cannot be left to market forces. In order for government managers to carefully plan health care spending and achieve a high return on investment by improving the health of individuals, it is necessary to identify the proportion of household health care spending that reflects, to some extent, the demand and need of individuals in the market for health care services. This study attempts to provide guidance to managers on how to support household health and make appropriate policies by focusing on household health expenditures and using the existing literature in the field by modelling household health expenditures.

Methods

This paper uses economic studies to build a model for studying household health expenditures and describes the variables and welfare status of households.

I consider an open economy with a representative household, a firm and a government using the DSGE framework. It is considered this economy populated by a large number of identical households that receives income from providing labour and capital and chooses a path of consumption and capital investment to maximize their utility (the utility is in the logarithmic form) given by:

$$E_0 \sum_{t=0}^{\infty} \beta^t U(TC_t, H_t) \qquad (1)$$

$$U_t = U(TC_t, H_t) = \ln(TC_t) + \chi \ln(1 - H_t) \qquad (2)$$

$$U_t^H = \ln(TC_t^H) + \chi \ln(1 - H_t) \qquad (3)$$

$$U_t^O = \ln(TC_t^O) + \chi \ln(1 - H_t) \qquad (4)$$

$$TC_t + K_{t+1} = (1 - \tau_H)W_t H_t + (1 + R_t(1 - \tau_k) - \delta)K_t \qquad (5)$$

$$(1 - \tau_H)W_t = \chi\left(\frac{TC_t}{1 - H_t}\right) \qquad (6)$$

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$$\frac{1}{TC_t} = \beta E\left[(1 + (1 - \tau_K)R_t - \delta)\frac{1}{TC_{t+1}}\right] \qquad (7)$$

$$TC_t = \theta TC_t^H + (1 - \theta)TC_t^O \qquad (8)$$

Wherein TC_t is total consumption expenditures, TC_t^H is health care expenditures, TC_t^O is other consumption expenditures, θ is Share of health care expenditures in total consumption expenditures ,and H_t is the labor of households.

$$K_{t+1} = I_t + (1 - \delta)K_t \qquad (9)$$

$$Y_t = F(H_t, K_t) = (e^{a_t}H_t)^\alpha K_t^{1-\alpha} \qquad (10)$$

$$R_t = (1 - \alpha)(e^{a_t})^\alpha (\frac{H_t}{K_t})^\alpha \qquad (11)$$

$$W_t = \alpha(e^{a_t})^\alpha (\frac{H_t}{K_t})^{\alpha-1} \qquad (12)$$

Where R_t explains the interest rate, Y_t denotes domestic output, I_t denotes gross investment, and K_t denotes physical capital, δ denotes the depreciation rate of physical capital. The labor augmented technical progress by following an AR (1) process as the productivity shock and Government spending by a following an AR (1) process as Government expenditure shock are given by:

$$a_t = \rho_a a_{t-1} + \varepsilon_{a,t} \qquad (13)$$

$$g_t = \rho_g g_{t-1} + \varepsilon_{g,t} \qquad (15)$$

The government to finance exogenously given consumption. It is assumed that the government operates with a balanced budget and imposes taxes on labor and capital income. The budget constraint is given by:

$$e^{g_t}G_t = \tau_H W_t H_t + \tau_K R_t K_t \qquad (14)$$

Finally, the gross domestic product (Market Clearing) and welfare function are defined as:

$$Y_t = TC_t + I_t + e^{g_t}G_t \qquad (16)$$

$$WEL_t = U_t^O - U_t^H \qquad (17)$$

Results and Discussion

Based on the literature on models for economies, to solve and simulate the pattern, the research model used the parameter values listed in Table 1[2].

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[2] Please contact the author for data requests

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Table 1. calibration Parameters

Parameters	Description	Value	Source
δ	Depreciation rate	0.0139	Izadi (2021)
χ	risk aversion	2	Marzban et al. (2018)
α	Capital share	0.44	Izadi (2018)
β	Discount factor	0.9952	Izadi and Sayareh (2019)
τ^k	Tax on Capital	0.356	Marzban et al. (2016)
τ^h	Tax on Labor	0.047	Marzban et al. (2016)
ρ_a	Technology Shock Persistence	0.599	Izadi and Marzban (2019)
$\varepsilon_{a,t}$	Technology Shock Standard Deviation	0.016	Izadi and Marzban (2019)
ρ_g	Government Spending Shock Persistence	0.929	Izadi and Marzban (2016)
$\varepsilon_{g,t}$	Government Spending Shock Standard Deviation	0.075	Izadi and Marzban (2016)
G/y	Government Spending	0.125	Researcher's calculations

Table 2 defines the effects of changes in the proportion of household health expenditure with different values and then reports the magnitude of the mean and standard deviation of the variables. As can be seen from Table 2, the decrease in the share of household health expenditure in total consumption expenditure θ has increased the mean amount and standard deviation of the share of consumption expenditure on other goods, and at the same time, the household's utility has increased. For this reason, the welfare of society has increased because the consumption of other goods is associated with higher utility and satisfaction for the household. Similarly, as the share of household health expenditure in total consumption expenditure has increased, the average and standard deviation of the share of consumption expenditure on other goods has decreased, and, at the same time, the household utility has decreased. For this reason, the welfare of society has decreased, as the consumption of health goods and services is less desirable and satisfying for the household, and the household actually prefers other goods and services.

Table 2. Effect of changing Share of health care expenditures on Moments of Simulated Variables

Variable		TC_t	TC_t^H	TC_t^O	U_t	U_t^H	U_t^O	WEL_t
Mean	$\theta = 0.01$	17.8937	0.0636	1.0746	0.0010	0.0043	0.0296	0.0253
	$\theta = 0.5$	17.8807	0.5953	0.5689	0.0010	0.0269	0.0283	0.0013
	$\theta = 0.99$	17.8426	1.1270	0.0630	0.0010	0.0284	0.0043	-0.024
Std. Dev.	$\theta = 0.01$	0.0295	0.0002	0.0292	0.0049	0.0070	0.0292	0.0233
	$\theta = 0.5$	0.0295	0.0147	0.0147	0.0049	0.0267	0.0279	0.0012
	$\theta = 0.99$	0.0294	0.0291	0.0002	0.0049	0.0279	0.0070	0.0219

Figure (1) shows the shock-impact function of government spending in the presence of changes in the parameter of the share of household health spending θ on the utility function of household consumption. The results of this function show that the lower the value of this parameter and the closer it is to zero, the weaker the impact of this shock on the UH function and the more severe the impact on the UO function. The higher the value of this parameter, the stronger the impact of this shock on the UH function and the weaker the impact of this shock on the UO function. Thus, from these graphs, we can conclude that the shock effect of government spending on the household utility function varies due to the change in the share of consumption goods spending and the resulting change in the composition of the basket of goods, which is a combination of health goods and other consumer goods. Depending on which consumption goods basket the household has chosen, the shock has a larger impact on the utility of consuming these goods.
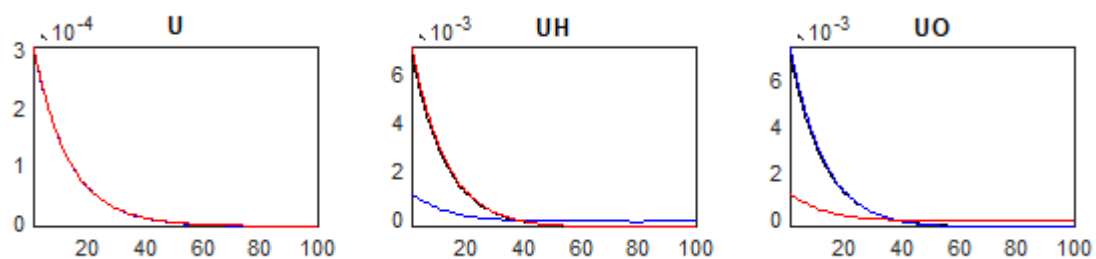

Fig 1. Impulse Response to A Unit Government Spending Shock in Model. Note. Blue Line: θ = 0.01, Black Line: θ = 0.5 And Red Line: θ = 0.99.

Figure (2) shows the shock response function of government spending to changes in the parameter of the household health expenditure share θ of the household consumption variable. The results of this function show that the lower the value of this parameter and the closer it is to zero, the weaker the impact of this shock on the consumption variable CH and the stronger the impact on the consumption variable CO. The higher the value of this parameter, the stronger the effect of this shock on the consumption variable CH and the weaker the effect of this shock on the consumption variable CO. Thus, from these graphs, we can conclude that the shock effect of government spending on the household consumption variable varies due to the change in the share of consumption goods spending and the resulting change in the composition of the basket of goods, which is a combination of health goods and other consumer goods, which is due to the choice of the composition of the household basket of goods.

Fig 2. Impulse Response to A Unit Government Spending Shock in Model. Note. Blue Line: θ = 0.01, Black Line: θ = 0.5 And Red Line: θ = 0.99.

Figure (3) shows the shock-response function of government spending in the presence of changes in the parameter of the share of household health spending θ on the household

welfare function. The results of this function show that the lower the value of this parameter and the closer it is to zero, the more positive the effect of this shock on the household WEL welfare function and the higher the household welfare. This is because the share of consumption of other goods in the households' basket of goods has increased, so the government spending shock has increased the consumption of these goods and, consequently, the households' welfare increases due to the application of this shock. The higher the value of this parameter and the closer it is to one, the more negative the effect of this shock on the household WEL welfare function and the lower the household welfare. This is because the share of consumption of health goods in the households' basket of goods has increased, so the shock to government spending will increase the consumption of these goods again. However, since the consumption of these goods provides less satisfaction to the household and reduces the share of consumption of other goods, the household's welfare is reduced by this shock.
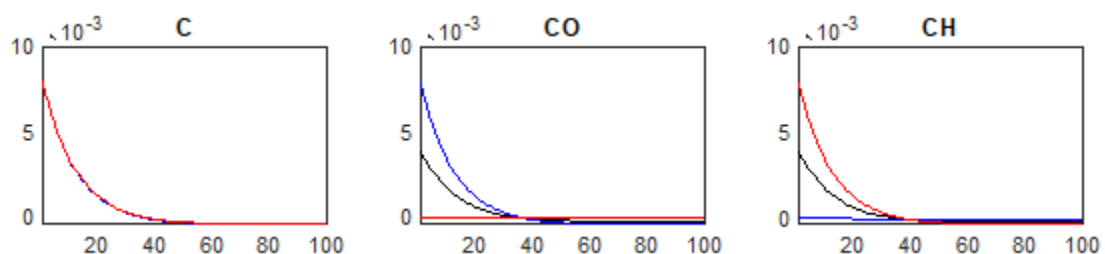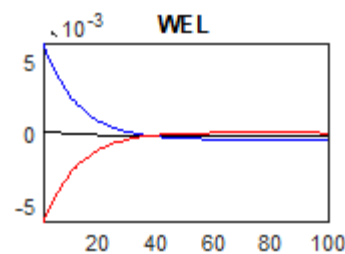

Fig 3. Impulse Response to A Unit Government Spending Shock in Model. Note. Blue Line: $\theta = 0.01$, Black Line: $\theta = 0.5$ And Red Line: $\theta = 0.99$.

Figure (4) shows the shock function of the response to the technology shock in the presence of changes in the parameter of the share of the household's health expenditure θ in the utility function that results from the household's consumption. The results of this function show that the lower the value of this parameter and the closer it is to zero, the weaker the effect of this shock on the UH function and the more severe the effect of this shock on the UO function. The higher the value of this parameter, the stronger the effect of this shock on the UH function and the weaker the effect of this shock on the UO function. Thus, from these graphs, we can conclude that the impact of the technology shock on the household utility function will be different due to the change in the share of consumption goods expenditure and the resulting change in the composition of the basket of goods, which is a combination of health goods and other consumer goods.
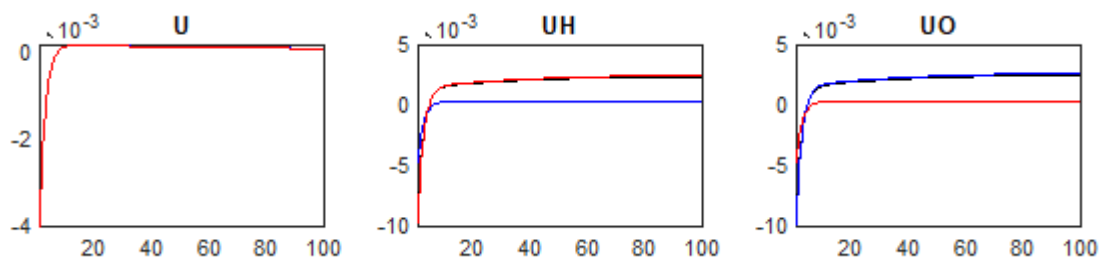

Fig 4. Impulse Response to A Unit Technology Shock in Model. Note. Blue Line: $\theta = 0.01$, Black Line: $\theta = 0.5$ And Red Line: $\theta = 0.99$.

Figure (5) shows the shock function of the response to the technology shock under changes in the parameter of the share of household health expenditure θ in the household consumption variable. The results of this function show that the lower the value of this parameter and the closer it is to zero, the weaker the impact of this shock on the consumption variable CH and the stronger the impact on the consumption variable CO. The higher the value of this parameter, the stronger the effect of this shock on the CH consumption variable and the weaker the effect of this shock on the CO consumption variable. Thus, from these graphs, we can conclude that the impact of the technology shock on the household consumption variable will be different due to the change in the share of consumption goods expenditure and the resulting change in the composition of the shopping basket, which is a combination of health goods and other consumer goods, based on the choice of the composition of the household shopping basket.
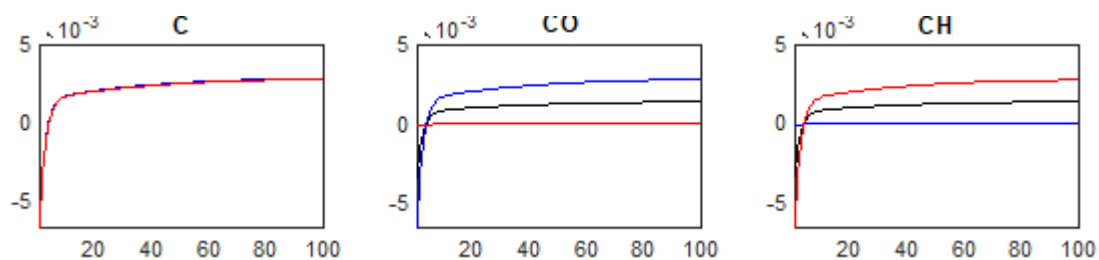

Fig 5. Impulse Response to A Unit Technology Shock in Model. Note. Blue Line: θ = 0.01, Black Line: θ = 0.5 And Red Line: θ = 0.99.

Figure (6) shows the shock function of the response to the technology shock in the presence of changes in the household health expenditure share parameter θ on the household welfare function. The results of this function show that the effect of this shock on the household WEL welfare function is negative and reduces household welfare the lower the value of this parameter and the closer it is to zero. This is because the technology first affects investment and then increases the production of other goods, reducing the welfare of the households' basket of goods, which has a larger share than other consumption goods. The higher the value of this parameter, the more positive the effect of this shock on the household WEL welfare function and the higher the household welfare. This is because the share of health goods consumption in the households' basket of goods has increased, so the direct technology shock has increased the production of health goods and services, and therefore the family welfare increases by applying this shock.
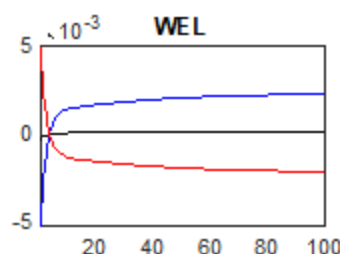

Fig 6. Impulse Response to A Unit Technology Shock in Model. Note. Blue Line: θ = 0.01, Black Line: θ = 0.5 And Red Line: θ = 0.99.

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Conclusion

This article examines the effects of changes in the share of households' health expenditures. The reduction in the share of household health expenditure in total consumption expenditure has led to an increase in the share of consumption expenditure on other goods, increasing the utility of households and raising the welfare of society.

In general, the results of this modelling suggest that as the household is less willing and satisfied to spend a larger share of its total consumption expenditure on health care services, the increase in health care costs forces it to reduce its consumption of other goods, thus reducing its overall desirability. The smaller the household health expenditure share parameter, the weaker the impact of the shock on the health expenditure variable and the stronger the impact of this shock on the consumption of another goods variable. The higher the value of this parameter, the stronger the impact of this shock on the health spending variable and the weaker the impact of this shock on the consumption of another goods variable. The application of a shock changes the consumption of goods, and consequently, depending on the composition of the household's basket of goods, the household's wealth changes with the application of the shock. Since the health of individuals overshadows their other activities, any change in health expenditure should be taken into account and health policies should be adjusted to improve it. Since one of the principles of social justice is easy to access to health services for all members of society, the following solutions are proposed to provide households with better and easier access to these services:

A. Extension of insurance coverage

B- Government support for the per capita insurance premium of the population

C- Timely financing of hospitals and health centres.

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Case Study

Control of Service Quality Indicators on Wooden Floor Retail "Flooring Parquete"

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Abstract

CV. Ladang Berkat Abadi is a company in Surabaya that has a brand called Flooring Parquete. Flooring Parquete is engaged in wood floor retail. As one of the businesses engaged in services, of course, it requires special attention to the quality of service provided to its customers. This study aims to analyze the control of indicators / dimensions of service quality owned by Flooring Parquete in providing service quality. The five indicators are the dimension of physical evidence, the dimension of reliability, the dimension of responsiveness, the dimension of assurance, and the dimension of empathy. This study uses an intrinsic case study approach. There are 2 data sources used, namely primary data in the form of interview results and secondary data in the form of e-guarantee data and material needs miscalculation data. The data analysis technique used is the PDCA method. The results showed that Flooring Parquete has met 3 of the 5 dimensions of service quality. The dimensions that have been fulfilled are the dimension of physical evidence, the dimension of guarantee, and the dimension of empathy. The unmet dimensions are the reliability dimension and the responsiveness dimension. In the dimension of reliability, Flooring Parquete has problems with the ability of employees to provide accurate calculations of material needs. Meanwhile, in the dimension of responsiveness, the problem that occurs is the slow response from employees when customers consult. This can result in a decrease in the level of credibility of Flooring Parquete towards its customers.

Keywords: Retail wood flooring, Quality of service, PDCA.

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Introduction

The increase in Covid-19 has caused a major health and humanitarian crisis in various parts of the world, one of which is in Indonesia. Various companies, both individuals, micro, small, medium to large companies, even in local, national, and global scales, have all experienced significant impacts due to the Covid-19 pandemic (Taufik & Ayuningtyas, 2020). The cause of the bankruptcy of several SMEs during the Covid-19 pandemic, one of which was caused by changes in people's behavior in shopping. Changes in the behavior of people who used to prefer to shop for necessities offline, are now required to do online shopping activities. Business leaders may be less experienced in dealing with this unexpected pandemic, so in determining the actions and processes carried out can create uncertainty for the future of the business being run. This can be overcome with a management control system that can help to adjust quickly to new circumstances. By using a management control system, the company can control the entire organization, including control over all resources used (both human resources and equipment resources), as well as the results obtained by the company, so that the company can achieve its goals smoothly.

The management control system is a process system that ensures that every existing resource, be it human, technological, physical, or money, is used in achieving the goals that have been set. According to Anthony & Govindarajan (2005, p. 20), the management control system is a system used by management to control the activities of an organization. With the management control system, it can make the company still in a good state in the midst of a pandemic. One of those controls is quality control. Quality control can be a tool for company management to improve the quality of products/services (if needed), maintain the quality of products currently owned, and can reduce the number of damaged products.

To find out what can be used as a quality control factor, companies can use the dimension of service quality, which is a consumer evaluative method of service received at a certain time (Parasuraman et al., 1988). The dimensions of service quality are divided into 5 main dimensions, namely physical evidence (tangible), reliability (reliability), responsiveness (responsiveness), assurance (assurance), and empathy (empathy). Physical evidence is physical evidence of the existence of services which can be in the form of physical facilities, physical representations of services, or equipment used. Reliability is consistency of performance and the ability to be trustworthy. Responsiveness is the readiness of employees in providing services needed by customers. Guarantee is the overall knowledge, ability, courtesy possessed by employees to foster a sense of customer trust. Empathy is the ease of carrying out good relationships / communication between employees and customers in order to understand the needs of customers.

In carrying out quality control, companies can use the Plan-Do-Check-Act method or commonly referred to as PDCA. PDCA is a cycle that must be carried out repeatedly so that it can realize a system that is always evolving for the better. Basically, the PDCA method can not only be used for manufacturing companies, but can also be used for various businesses, one of which is the home interior products and services such as

flooring installation services. Flooring installation services are wooden floor installation services designed to be used as floor coverings, both structurally and aesthetically.

CV. Ladang Berkat Abadi is engaged in retail business and home interior services. CV. Ladang Berkat Abadi has a brand called Flooring Parquete which provides a variety of flooring products such as laminate or parquet, vinyl, SPC, decking. Flooring Parquete is a retail that provides flooring products from various well-known wooden flooring brands, as well as providing wood floor installation services throughout Indonesia. Flooring Parquete experiences several obstacles in providing quality service to customers.

Some of the obstacles faced by Flooring Parquete are, the first obstacle, inaccuracy in the calculation of material needs, where there is a difference between the calculation of material needs given by the Flooring Parquete admin and the calculation of cost realization when installing materials in the project. Based on some data provided by Flooring Parquete regarding the calculation of project material needs, the miscalculation rate of Flooring Parquete reached ± 3% of the total of some project data provided. The miscalculation is caused by several factors such as unprepared survey locations, varied floor pattern designs, non-standard field conditions, and inappropriate floor plan drawing sizes. If the realization of the costs that must be incurred by the customer is smaller than the cost budget given by the Flooring Parquete admin, it will not be a problem. However, if the realization of the costs that must be incurred by the customer is greater, it can be a big problem for the customer. In this first constraint, the dimension of reliability has not been met. The second obstacle, the level of speed in responding to customers, customers complained that the level of admin speed from Flooring Parquete in providing services was still less than optimal / slow. In this case, Flooring Parquete still does not meet the dimensions of responsiveness. In this study, researchers will control the quality of services owned by Flooring Parquete using the PDCA method.

Research Quentions

Based on the above background description, it concludes the formulation of the problem as follows: "How to control the quality indicators of service on the Flooring Parquete wooden floor retail?".

Literature Review

Management Control System

The system is a determined and usually iterative way to perform an activity or a series of activities (Anthony & Govindarajan, 2005, p. 6). A system is needed to control that every existing activity has been carried out in accordance with predetermined standard operating procedures. The system becomes a means of collecting and using information to coordinate the process of making plans. According to Anthony & Govindarajan (2005, p. 20), the management control system is a system used by management to control the activities of an organization. In general, control activities are divided into 2 types of classifications, namely management control and operational control. Management control leads to the control of activities as a whole to ensure that the strategies owned by the company have been carried out effectively and efficiently, while operational control

concerns the various tasks that the company's personnel have been implemented effectively and efficiently.

The management control system must meet several elements in it (Ibnuismail, 2020). First, the detector, the process of detecting whether in the management there is a problem or not. Detectors can be both internal and external information systems obtained from the results of auditing. Second, the selector, ensuring the correctness of the information obtained in the detector process, if there is a discrepancy between the process and the standard operating procedures, the next process will be carried out. Third, the effector, if there are deviations, it must be straightened out in accordance with existing standards. Fourth, the communicator, conveying the results of the evaluation to the entire team and ensuring improvements are made to the findings.

Based on the explanation above, it can be concluded that the management control system can help the company in checking and evaluating whether the current strategy owned by the company has been carried out effectively and efficiently. Control itself is an activity carried out with the aim of maintaining quality, so that in the event of deviations it can be corrected immediately and what is expected can be achieved. Nowadays, awareness of the importance of good quality is increasing. This arises from the attitude of customers who want guaranteed goods/services and competition between similar companies that are increasingly fierce. Therefore, companies need to take discretion in maintaining the quality of the products/services offered so that the goods/services offered can be accepted, able to compete with similar companies, and can maintain the existing market or add to the company's market. Quality control can be a tool for company management to improve the quality of products/services (if needed), maintain the quality of products currently owned, and can reduce the number of damaged products. It can be concluded that quality control is an activity to maintain, direct, maintain, and satisfy consumer demands towards the company to the maximum. Before carrying out quality control, this study will use the PDCA method to analyze the things needed related to quality improvement in internal Flooring Parquete.

Plan, Do, Check, Act

The PDCA cycle was initiated by Walter Shewhart and developed by W. Edwards Deming with the aim of improving the company or individual process. The PDCA cycle is often referred to as the Deming cycle (Atkinson et al., 2012, p. 6). The PDCA cycle is a cycle that must be carried out repeatedly so that it can realize a system that is always developing for the better. PDCA can not only be used for manufacturing companies, but can also be used for project management, change management, resource management, and product development. According to Atkinson et al. (2012, p. 6) the PDCA cycle has the following 4 phases:

1. Plan

Planning is carried out to identify goals and processes by finding out various things that are not right in the company, then looking for solutions / ideas for solving these problems. To identify the problem, you can use the 5W technique, namely what, who, when, where, and why.

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2. Do

In this phase, start working on various things that have been planned in advance. Generally, the initial steps in this phase are carried out on a small scale in the entire organization/project before being developed into the entire organization/project. During the implementation of the plan, control must be carried out by striving for the entire plan to be carried out properly to be in accordance with the plan and on target.

3. Check

The inspection phase is carried out by auditing the execution and monitoring whether the plan is in accordance with the initial design or not, comparing the quality of the results with the standards that have been set. If there is still a difference between the results obtained and the original plan, it is necessary to evaluate and eliminate the causes of the difference.

4. Act

This phase is the last phase of the PDCA cycle, which is to follow up on the results to make the necessary improvements. Following up on the results means standardizing the company to avoid re-emerging the same problem or being able to set new goals for the next improvement.

The PDCA cycle has several advantages if it is used appropriately to find a job that matches the expectations of the company. The PDCA cycle has several advantages if it is used appropriately to find a job that matches the company's expectations, such as sustainable, the flow is easy to understand, sustainable business development, detect risks from an early age. Although the PDCA method has some advantages, it does not mean that it does not have disadvantages, such as static, processes must be sequential, and implementation cannot relate. From the explanation above, it can be concluded that PDCA can help optimize the management process to be superior. If the company is already reliable in maintaining the quality of management, it will provide a greater opportunity for the company to be able to outperform all its competitors. The results obtained from the PDCA analysis, then a further evaluation will be carried out using the concepts of the dimension of service quality.

Quality of Service

Service quality is the totality of the features and character of a product or service that can satisfy stated or implied needs (Kotler & Keller, 2016, p. 156). Service quality can be a measure of customer assessment of the process of providing services and can be an evaluation material for the company. Based on the understanding above, the quality of service is a must owned by companies that produce goods or services. Service quality has several benefits such as being able to identify customer needs and requirements, conveying customer wishes to product/service owners, ensuring customer orders are appropriate and given on time, and maintaining a good relationship with customers after sales in order to ensure that customers are satisfied. In service quality there are 5 dimensions of service quality (Parasuraman et al., 1988, p. 23) as follows:

1. Tangible

The appearance of physical facilities, equipment and equipment, means of communication and the appearance of employees of the company.

2. Reliability

The company's ability to provide the promised service to be accurate and reliable.

3. Responsiveness

Willingness to help customers and provide services quickly.

4. Assurance

Employee knowledge, decency, and ability can foster trust and increase confidence.

5. Empathy

Giving special and deep attention to each customer.

The five dimensions refer to the gaps of various expectations and perceptions that arise. The five models of gap theory in service quality according to Zeithaml, Parasuraman, & Berry (1988, p. 23) are as follows:

1. Gap between customer expectations-management perceptions.

2. Gap between management perceptions-service quality specifications.

3. Gap between the specifications of service quality-service delivery.

4. Gap between service delivery and external communication.

5. Gap between the expected-service service is accepted.

Of the five dimensions, this study will focus on the dimension of service quality, namely the difference between the expected service-service received. The dimension of service quality is expected to show how big the difference between the service that the customer expects and the service felt by the customer.

Methodology

This research is a qualitative research with a case study approach. This research uses an intrinsic case study approach. The intrinsic case study approach was chosen to gain a clear understanding of a case/phenomenon and not to create a new theory. This approach is in accordance with the previously described background, namely regarding the level of speed in responding to customers, and the calculation of project measurements. In a study, there is also a thinking design or paradigm used by this study in looking at the entire process, format, and results of the research. The paradigm used by this study is the paradigm of pragmatism. The paradigm of pragmatism will help this study to assess a fact

or reality of a particular phenomenon by not always being fixed (subject to change at any time). This study used 3 informants, namely the owner of Flooring Parquete as the key informant / informant 1 and one of the employees of Flooring Parquete as informant 2. Informant 1 will be asked to provide an employee recommendation as the next informant. The 3rd informant is a customer who has used the services of Flooring Parquete.

The data used in this study was taken from 2 types of data sources, namely primary data and secondary data:

1. Primary data

Primary data were taken directly through interviews from 3 informants at Flooring Parquete (owners, employees, and customers). The topic of the interview conducted contained the quality of retail services and flooring installation services at Flooring Parquete.

2. Secondary Data

The secondary data used in this study are in the form of e-guarantee data and data on miscalculation of material needs. Secondary data are also obtained from the results of literature on the same topic.

In this study, the validity of the data was carried out using source triangulation. Source triangulation is to compare and check the degree of trust of an information that has been obtained through different tools and times in qualitative research.

Method of Data Analysis

Data analysis is an activity to find the meaning, interpretation, and conclusion of the entire research data. The data analysis technique used is to use the pdca concept as follows:

1. Plan Stage: Identify the existence of target setting or planning carried out by the company for a year. The target or planning includes the quality of material purchase services and wood floor installation services.

2. Do Stage: Identify the activities carried out to implement the targets that have been planned in the Plan stage.

3. Check Stage: Evaluate by comparing the realization with the target/planning. At this stage, obstacles or weaknesses faced by the company are identified during the implementation of targets or planning.

4. Action Stage: Identify efforts that can overcome the problem if the evaluation results are still not in accordance with the expected target. At this stage, efforts are made to improve the obstacles that may be faced by the company in realizing targets/plans.

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Research Findings

Based on the results of the data processing that has been carried out, the results of controlling the dimensions of service quality based on PDCA are as follows:

1. Dimensional Control of Physical Evidence Under PDCA

In providing quality service to Flooring Parquete customers, Flooring Parquete has several plans in the dimensions of physical evidence as follows: First, the selection of a showroom location that is in a strategic location with comfortable room conditions for customers and is supported by neat sample arrangements. Second, related to social media, Flooring Parquete has a plan to provide a concept that not only provides information about the products sold but also educates the public on matters related to interior design. Flooring Parquete also strives to have its own portfolio which does not take photos/videos of competitors' projects to serve as its portfolio.

In realizing the planning, Flooring Parquete has a Flooring Parquete showroom located in the Northwest Citraland Shophouse and in the Pakuwon Trade Center mall. The two companies are in strategic locations and are included in the upper middle segment and close to Citraland housing so that they have a business stigma in elite locations. This of course also affects the arrangement of room conditions that are made as comfortable as possible for customers when visiting the showroom.

Social media Flooring Parquete has also posted on its social media, which not only promotes sales but also provides education to the public about interior design. Social media Flooring Parquete also has a schedule of posting content based on the categories that have been created. If there are people / customers who want to know in detail about the material, it has also been explained entirely through its Youtube called Fake Architect. The portfolio owned by Flooring Parquete to date is also always obtained from photos and videos before and after the project is carried out to increase its credibility as a service provider.

Both of these things have been realized by Flooring Parquete. At present, the assessment from the customer of the physical evidence dimension of Flooring Parquete has been fulfilled. If in the future Flooring Parquete wants to expand its business by opening a new showroom, then Flooring Parquete can open showroom 1 in each province on the island of Java first and be standardized with showroom conditions like those in the Northwest Citraland Shophouse. As reported on the IDX Channel in April 2022 according to Nurhaliza (2022) which discusses the 7 most densely populated cities in Indonesia in 2022, where the island of Java has 5 of the 7 cities with the most densely populated population in Indonesia. The five cities are DKI Jakarta, Bekasi, Surabaya, Bandung, and Depok. While the other 2 most populous cities are Medan (Sumatra) and Makassar (Sulawesi). This can be in accordance with the development plan for the opening of the Floring Parquete showroom in the future. As for social media, Flooring Parquete must also be consistent in accordance with the planning and what has been done to date.

2. Dimensional Control of Reliability Dimensions Based on PDCA

This dimension relates to the company's ability to provide the services provided to be accurate and reliable. For this dimension, from the results of data analysis shows if the Flooring Parquete has not met. Flooring Parquete has the following plans: First, conducting education to improve the knowledge and accuracy of employees in providing information to customers. Second, The Flooring Parquete admin always replies to chats based on the order in which they were logged in. Third, the Flooring Parquete admin helps customers who find it difficult to measure the room to be renovated via chat. However, in its realization, the Flooring admin sometimes still gives the wrong calculation of material needs to customers. This can affect customer confidence in Flooring Parquete. Miscalculation can be risky, because it is related to the costs that must be prepared by the customer to perform flooring installation services.

The solution to this problem is that Flooring Parquete can conduct employee training which can be done every week or can also be 2 times a month which is located at the Northwest Citraland Shophouse. This solution is taken using several considerations, such as employees can improve skills and knowledge regarding types of materials (whether sold by the company or not) and the specifics of the type of each material, employees can understand and have an idea of the real conditions in the project, in this case the owner of Flooring Parquete can rotate the scheduling of employee visits to the project site, employees can understand the ins and outs of implementing the calculation of material needs on the project in more depth, employees can understand and provide accurate solutions/considerations for any difficulties faced by customers when consulting, and employees can improve their performance appraisal.

Companies can also get some benefits from conducting training such as the following: increased accuracy of calculations provided by employees to customers, increased effectiveness and efficiency of employee work, and the possibility of forming a new post relating to a project that may not have been necessary in the past, but is currently necessary. With this training, the company must also prepare the costs that need to be incurred during the training: First, facilitator (estimated cost of IDR 100,000/meeting). In this case, if possible, the owner of Flooring Parquete as the most experienced person in the company can also act as a facilitator so as to minimize training costs. Second, Consumption (estimated cost of IDR 35,000/pax). Flooring Parquete has 1 owner and 7 employees. The total consumption costs that must be incurred per meeting are RP 35,000 x 8 people = IDR 280,000. Third, equipment and stationery (estimated cost rp 20.000/person). These stationery and stationery include books, ballpoint pens, pencils, erasers, correction pens, and rulers. For such equipment and stationery can be used for several meetings.

In monitoring the training, Flooring Parquete owners can use several indicators and processes that need to be carried out such as provisions in the management of training time, the accuracy of the training methods used, the use of media that supports the training method, conducting learning evaluations, and taking follow-ups from the existence of the program. If the training results show that employees have increased knowledge of flooring materials, this indicates that the process carried out during the training is appropriate. However, if the employee has not experienced an increased knowledge of flooring materials, then the owner of Flooring Parquete needs to take corrective action.

3.   Dimensional Control of Responsiveness Based on PDCA

This dimension relates to the willingness to help customers and provide services quickly. Flooring Parquete has a plan by dividing admins per area so that services through chat can be done one door for each area held by each admin. To realize the planning, Parquete's Flooring team strives to assist customers in providing fast and accurate services. If there is a complaint from a customer, the team will immediately process the complaint. However, the expected plan did not correspond to its realization. Where customers still feel that the response given by employees is still slow. This can be caused by one of them is due to the lack of admins they have to reply to various kinds of questions from different customers at the same time. As a solution to this problem, Flooring Parquete owners can add their number of admins. Some of the advantages of increasing the number of admins start from: First, customers can respond faster. Secondly, it can allow the Flooring Parquete showroom to open for a whole week, so that the chances of gaining new customers are further increased. With the increase in the number of employees, the cost consequences that will be faced by Flooring Parquete are of course an increase in the cost of expenses per month in terms of employee payroll. Based on data obtained from Indeed.com (2022), the average salary for an administration in Surabaya ranges from IDR 3,455,001 per month. However, the number of such figures can be adjusted according to the financial capabilities of the company.

4.   Control of Warranty Dimensions Under PDCA

This dimension relates to the knowledge, behavior, and ability of employees to increase customer trust and confidence in Flooring Parquete. Based on the results of data analysis, the guarantee dimensions for Flooring Parquete have been met. The plan stage in this dimension begins with Flooring Parquete planning to build a sense of customer security when consulting, so that Flooring Parquete is not only providing ordinary services, but also trustworthy. In its realization, Flooring Parquete also provides an e-guarantee guarantee for every purchase of materials sold where all the provisions have been included, as well as the procedures that must be carried out in the e-guarantee. With this e-guarantee, it can give more value to Flooring Parquete in the eyes of customers. Where as is known, many business people, especially those engaged in this industry, do not dare to provide warranty for decades, as flooring Parquete did. This can increase confidence both for the product and the quality of installation services provided by Flooring Parquete.

5.   Control of the Dimension of Empathy Based on PDCA

Flooring Parquete's empathy dimensions have been fulfilled. This dimension relates to giving special and deep attention to each customer. Flooring plans to always help customers who are having difficulties when consulting regarding the floor to be renovated. This has been realized with Flooring Parquete by asking for complete customer data to make it easier for customers to communicate with the Flooring Parquete's team. The Flooring Parquete's Team also provides explanations and suggestions regarding the characteristics of each product owned along with the estimated costs of various types of existing products.

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Conclusion

Based on the results of previous data analysis, the control of service quality indicators on Flooring Parquete wood floor retail has met 3 of the 5 dimensions of service quality. The results of the analysis of the dimensions of service quality are also supported by the PDCA method to show if the dimensions that have been met are the dimensions of physical evidence, the dimension of guarantee, and the dimension of empathy. Meanwhile, the dimensions that have not been met are the dimension of reliability and the dimension of responsiveness.

The dimension of reliability has not been met because Flooring Parquete employees sometimes still provide incorrect calculations of material needs to customers. Accuracy in calculating material needs is very important, because it is related to the costs that customers must prepare to use flooring installation services. Incorrect calculations can result in the failure of the sales transaction. Meanwhile, the dimension of responsiveness has not been met due to delays in employee responses when providing consultations to customers. Every customer certainly expects to get a quick response, calculated from the time the customer initially made contact with the company. This delay in response can also result in transaction failure. Based on these 2 things, the credibility of a business and the convenience provided to customers can be the main key to maintaining customer's interest in the business they have.

Limitations and Research Suggestions

The research was conducted using qualitative methods and used primary data obtained from the interview results. The limitations of this study include the subjectivity contained in the researcher. This research relies heavily on the researcher's interpretation of the meaning implied in the interview results, so the tendency to bias still remains.

Based on the research that has been carried out, practical advice that can be given, namely to reduce the habits of the interview results when conducting a service quality analysis, you can use other triangulation methods as well such as triangulation theory, triangulation methods, and so on.

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Conceptual Paper

COVID-19 and Online Teaching and Learning at HEIs: Proposing Additional Research from Institutional Work Perspective

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Abstract

The purpose of this study is to highlight and call for more research into whether higher education institutions (HEIs) senior management teams are positioned as empowered leaders of change to coercively as well as persuasively implement an alternative online teaching and learning platform, disrupting existing institutions for the benefit of its major stakeholder, students amidst COVID-19. This study used a qualitative meta-analysis method to combine previous qualitative studies to develop deeper meaning through an interpretive process, signalling that more research in this area is required. We argue that the senior management teams in HEIs are influential actors and change agents and have the potential to significantly contribute to institutional work. In addition, we discovered that institutional entrepreneurship has limited research in the study of HEIs and depicts the opportunity to explore the concept of agency and institutional work in the context of HEIs. This study makes a good impression and emphasises the need for future research, particularly on senior management teams at HEIs, to reflect their institutional work in the formation of institutional changes witnessed in the HEIs' virtual classroom platform.

Keywords: Institution, institutional work, HEI, COVID-19, online teaching, learning.

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Introduction

Education helps understand life better and opens up pathways to a lot of opportunities in life. Higher education provides the means to improving one's life, enhancing informed decisions and creating a stout economy. Going to school is the best public policy tool available to raise skills (Burgess & Sieversten, 2021). Prior to COVID-19 the world was different and so was the education system. Face-to-face interaction, lectures and classes were part of daily life.

In the last 50 years there was a huge worldwide growth in the provision of education at all levels but the education systems faced their greatest challenge due to COVID-19 (Daniel, 2020). There is evidence that due to the pandemic some high-income countries are now facing learning losses and increases in inequality (Donnelly et al., 2021). While COVID-19 was first and foremost a health crisis, many countries decided to close schools, colleges and universities (Burgess & Sieversten, 2021).

However, against the backdrop of the COVID-19 outbreak, various policy initiatives were launched by governments and various institutions so that teaching activities could continue (Ali, 2020). Some higher education institutions (HEIs) fully adopted online learning pedagogy while others incorporated online learning with face-to-face as a contingency plan or insurance if there was another lockdown in their country (Ali, 2020). In some countries, negligence resulted in a major catastrophe to contain the virus and HEIs had no choice but to comply with the restrictions which were placed by the Government of that country (Ali, 2020; Bao, 2020). This resulted in the senior management teams at the HEIs working on plans so that teaching and learning are unaffected due to the pandemic (Ali, 2020; Bao, 2020).

In this sense, our study calls for further research towards ascertaining the extent of institutional work by the HEIs' senior management teams relating to the switch to online teaching and learning platform amidst COVID-19 resulting in the disruption of an existing institution. Institutional work is a paradigm of the institutional theory which is defined as "the purposive action of individuals and organizations aimed at creating, maintaining and disrupting institutions" (Lawrence & Suddaby, 2006, p. 215). Institutional theory's isomorphism aspect has been highly studied in the context organisational studies (Meyer & Rowan, 1977; DiMaggio & Powell, 1983; Lawrence & Suddaby, 2006). In addition, Enders and Naidoo (2018) reveal that institutional theory is one of the dominant research perspectives for the study of organisations and has also influenced scholarly work on universities and HEIs as organisations. However, institutional work perspective needs to be further explored in a HEIs context (Enders & Naidoo, 2018). Hence, this study is calling for further research guided by two research questions. This is as follows:

1. What were the roles played by the HEIs' senior management teams involved in the formation of the institutional change observed in the virtual platform at the HEIs? and;

2. How did these actors enact institutional work contributing to overcoming the student attrition rate and disseminating knowledge-based culture during the pandemic?

The motivation of this study is to highlight the need for research and academic discussions on a new paradigm of institutional theory, institutional work in HEIs context. This research intends to highlight the possible contribution to the literature on creating, maintaining and disrupting institutional work reflected in HEIs relating to the virtual teaching and learning platform switch in the wake of the COVID-19 pandemic. It calls for further research on the roles played by HEIs' senior management teams in the formation of the institutional change observed in the virtual platform in those institutions. It also calls for research on how HEIs' senior management teams enact institutional work contributing to overcoming student attrition rate and disseminating knowledge-based culture during the pandemic. In the next section, this paper outlines the research methods used followed by prior studies' findings to base the need for conducting further research on HEIs' senior management perspective. The paper then integrates institutional work, a paradigm of institutional theory with HEI's senior management teams to reflect their position as powerful actors to bring institutional change in overcoming student attrition rate and disseminating knowledge-based culture during the COVID-19 pandemic.

Research Methods

This study adopted an exploratory research design to highlight the importance of conducting further research from HEIs senior management teams' perspectives revealing the potential acceptable institutional changes that they may have brought in for social acceptance (Meyer & Rowan, 1977; DiMaggio & Powell, 1983, Lawrence & Suddaby, 2006) and to ensure teaching and learning are unaffected in the wake of COVID-19 pandemic and lockdowns in HEIs. Exploratory studies are a good way to ask questions and get a baseline of information that may be utilised as a springboard for additional research (Ali, 2020).

Although qualitative research has long been a focus in psychology, meta-analyses of qualitative kinds of literature, often known as meta-syntheses, are becoming increasingly popular among academics (Ali, 2020). A qualitative meta-analysis, also known as meta-synthesis, is a type of meta-analysis that allows for a systematic examination of qualitative studies that is more interpretive than aggregative (Ali, 2020). Meta-analysts are urged to think about their studies' methodological integrity in connection to central research procedures, such as establishing a set of primary research studies and organising primary findings into categories or themes (Levitt, 2018; Ali, 2020). Similarly, this strategy employs robust qualitative methods to integrate prior qualitative studies in order to provide richer meaning through an interpretive process (Ali, 2020). The next section discusses prior studies' findings to base the need for conducting further research on HEIs senior management teams' perspectives.

Prior Studies' Findings

The negative impact of COVID-19 has been intense not only on the health of people (Verma et al., 2020) but the economy also suffered (Joshi et al., 2020) because of the

containment measures implemented in many countries after a global health emergency state was declared by The World Health Organization (WHO) in late January 2020 (Atmojo & Nugroho, 2020). Studies consistently indicate that the education sector was most adversely affected and had a huge impact on higher education systems globally due to the closure of HEIs (Joshi et al., 2020; Verma et al., 2020; Mahmood, 2020).

Teachers and students across the globe had to deal with the enforced online teaching 'migration' in a very short time span during the outbreak of COVID-19 (Bao, 2020) which has become the main reason for lockdowns and forced digital learnings (Mishra et al., 2020; Joshi et al., 2020). Ali (2020) has put forward the observation that despite deficiencies in the online teaching system, the main aim of the relevant stakeholders was that classes should not be interrupted and must go on. The education system was revamped to shift to online teaching and learning even though it was forced (Joshi et al., 2020). During the time of unprecedented online teaching different governments and educational institutions chose to teach non-stop (Bao, 2020) to ensure education continuity and the three key constituents of online education (institution, teacher, and student) had to comply (Joshi et al., 2020).

It appears that the realities of online teaching and learning remain the same all across the world and the need to teach online was the most likely option. The transition to go with online teaching and learning came with its fair share of problems. While some handled this transition well, others, especially those who had not conducted online classes before, struggled to find their own personal mix of remote teaching strategies (Daumiller et al., 2021; Gewin, 2020). There were ambiguities in how to teach, maintain the workload and create a conducive teaching environment during COVID-19 (Ali, 2020).

There have been different studies conducted across various disciplines, faculties and institutions across the world. It has been stated that the Chinese government banned all face-to-face classes and took all classes online (Ali, 2020). Bao (2020) also confirms that the Chinese government had requested for non-stop teaching. According to Mehmood (2020), the closure of the majority of the Pakistani universities amidst the COVID-19 pandemic forced the shift to online teaching. In Germany, digital learning became a prominent issue proceeding the effects of COVID-19 (Konig et al., 2020) and the same is true for the Indonesian education systems (Atmojo & Nugroho, 2020). Similarly, at Mizoram University, COVID-19 is cited as the main reason for the switch to online teaching (Mishra et al., 2020). Likewise, in a medical school in India, tailored online classes were introduced to support the didactic lectures which proved to be a huge success (Verma et al., 2020).

Before COVID-19, there was little investment in online learning but even if lack of technical knowledge wasn't an issue, there still was a need for some institutional guidance. Peking University had been offering some online classes before the pandemic, but the massive and disruptive shift of pushing all of its programs to online mode wasn't possible without some form of guiding principles (Bao, 2020). There was a need to go online with teaching, but different universities did it differently (Ali, 2020).

In all the papers reviewed the common theme was that the HEIs, Governments, related government ministries and stakeholders were behind the decision for online classes (Ali,

2020). However, there wasn't any unified policy created that could give clear instructions or directions about teaching online that could be followed by all (Ali, 2020; Joshi et al., 2020). Nevertheless, vigilance was shown by many countries, for instance, the Government of India's role in the issuance of instructions for online learning is commendable as it indicates that everybody worked together to implement online teaching through the creation and use of numerous online teaching tools such as e-Pathshala (e-content), SWAYAM (online courses for teachers), Quick Response (QR) coded textbooks, DIKSHA (e-content), YUKTI web portal, NEAT (enhancing employment ability) and many more (Joshi et al.,2020).

During the COVID-19 crisis situation, a lot of research has been done to look at various global practises adopted to maintain student engagement (Ali, 2020), to study the effectiveness of online learning (Atmojo & Nugroho, 2020), to highlight some of the challenges faced (Gewin, 2020) and to suggest some remedy to these challenges (Mahmood, 2020). There was a preference for simple technology, however, adaptability was still an issue. The initial challenge for both teachers and students was the struggle to accept the transition because there was not enough time to plan or adjust and they did not have proper knowledge and skills on the use of technology in online learning (Joshi et al., 2020; Atmojo & Nugroho, 2020). Stressed students were provided counseling and regular feedback on their learning was also greatly assisted (Mishra et al., 2020).

In another study at Chengdu University of IT, there was extensive study and data collected to research on online and flipped learning concepts (Tang et al., 2020). Flipped classroom model to teach medicine in India was described as an interesting concept (Verma et al., 2020). Traditional teaching methods have shown that flipped learning is superior to other types of learning modes (Tang et al., 2020). During a situation such as a pandemic, using a flipped classroom strategy to increase interactivity between teachers and students can enhance student learning (Mehmood, 2020; Verma et al., 2020).

Educational institutions and universities adapted to online teaching quite differently from one another (Ali, 2020). Universities like New York University Shanghai and Duke Kunshan University had previous experiences with using ICT technologies, so they had an efficacious shift (Ali, 2020). A study conducted by Daumiller et al. (2021) uses the integrative digital teaching and learning framework developed by Sailer, Schultz-Pernice, and Fischer to explore the achievement goals of teachers and how it relates to their online teaching quality. It was stated that teachers who valued the growth of their competencies and qualification perceived the shift as a challenge to learn something new, but those who were not so strong-willed perceived it as a threat. It was also noted that achievement goal is what motivates teachers and this dictates their attitude towards how they experience and handle the enforced online teaching.

Bao (2020) has among some useful strategies suggested preparedness for expected problems in online teaching and learning. However, the fact remains that in order to teach online there was a need to use technology, align the curriculum with the use of technology, invest in the digital infrastructure (including rural areas) and government collaborations with private institutions (Joshi et al., 2020). The use of ICT and the readiness of teachers are considered very crucial (Ali, 2020). Staff readiness and willingness to embrace change is a requirement for online teaching and ICT is required

to enhance the quality of teaching and learning (Ali, 2020). However, the integration of ICT into existing teaching pedagogies has to go together with infrastructure support as well as students' willingness and access to these tools because they are also faced with challenges (Ali, 2020; Mishra et al., 2020). It is revealed by Verma et al. (2020) that students want online classes to remain as a part of their curriculum even when classes go back to face to face mode, possibly through replacing theory classes, use of automation process tools for taking attendance online, and use of technology to demonstrate classes.

It is also stated that online teaching is a cheaper and more feasible method even though it will not replicate face-to-face experiences. However, this is limited to only medical studies and all the sources reviewed for this research have not suggested the same for replacement. Even though online classes cannot replace traditional face-to-face classes, the fact that emergency situations can arise at any time should not be ignored and as such being oblivious of technology is not an option (Joshi et al., 2020). It also became very apparent that the students of this day and age are digital natives and have strong bonding with ICT (Ali, 2020) but online teaching and learning causes a great deal of stress (Tang et al, 2020) and was not a preferred mode (nor regarded efficient).

The challenges in online teaching needed to be addressed so that teaching and learning are effective (Joshi et al., 2020). Institutions that had a clear vision made it easier to adapt to online teaching (Mishra et al., 2020). A study conducted in Germany by Konig et al. (2020) made some strong points by stating, firstly, that computer hardware or technology does not necessarily lead to student success. At least in the context of Germany, there are still students who have not shown digital competency or are actually underachievers in it. Secondly, teacher competency should be understood as 'content-specific' cognitive performance. Teachers are now expected to have ICT knowledge and confidence for online teaching and learning. Thirdly, teachers' self-efficacy is a decisive resource and teachers should be obliged to adapt to online teaching. However, this source focused mostly on early career teachers and their ability to adapt to online teaching.

To a very large extent, the same problems exist in online teaching (Bao, 2020) and the educators (teachers) faced similar issues. COVID-19 crisis has presented a learning and qualification situation that required teachers to perform well with online teaching and at the same time effectively engage and support students (Daumiller et al., 2020; Bao, 2020). Konig et al. (2020) also stated that the core challenge of online teaching and learning was maintaining contact with students through the online environment. It also looked at the use of computer technology and how successful mastery of this was important. Students needed to be motivated, teachers needed to keep patience and the creation of a virtual classroom experience was important (Mishra et al., 2020). Just like teachers, the students also need ICT training and support (Ali, 2020).

The findings of a research conducted by Atmojo and Nugroho (2020) show that teachers follow the rules of their institutions, whether it's to conduct synchronous mode of online teaching or to conduct regular discussions with their students, or to provide personal feedback or to grade and report students' work. Therefore, instructional strategies need to be implemented by the HEIs in their curriculum so it could serve as important references for others to improve the efficacy of online teaching and learning.

Mishra et al. (2020) put forward Lewin's 3 step process changing management theory to explain the change and shift to online learning and teaching. They have discussed how change requires unfreezing and refreezing to adapt to changes. The change to a digital platform begins with resistance because of bias, experiences or inexperience (Ali, 2020). At least, in the case of India, it has been said quite boldly by Mishra et al. (2020), that the education system required change. The same sentiments have been echoed by Joshi et al. (2020). They also acknowledge the fact that for any major change there is a need for research, understanding that higher education and institutions are different, consideration of requirements and knowledge of technology and the extensive use of smartphones (Mishra et al., 2020). We noticed from the aforementioned pieces of literature that research specifically on HEIs' senior management teams' perspective is yet to be explored from an institutional work context and the following section's discussion emphasises the need for such research be undertaken soon.

An Application of Institutional Work Discussion and Conclusion

The unwelcome arrival of the COVID-19 pandemic and its resulting diffusion and lockdowns has unleashed institutional pressures on HEIs to switch from their traditional face-to-face platform of teaching and learning to entirely rely on virtual mode (Bao, 2020; Mishra et al., 2020; Joshi et al., 2020; Konig et al., 2020; Gewin, 2020; Mahmood, 2020; Verma, 2020). The move to teach online is unprecedented and influential institutional actors (such HEIs' senior management team) have to ensure that the switch is implemented by considering the necessary support that is required by both the facilitators and students in the transition phase to online teaching (Bao, 2020). There is no doubt that the widely shared organisational practices in higher education institutions have been challenged by the waves of COVID-19 (Gewin, 2020; Mishra et al., 2020) and empowered actors within the HEIs have to quickly adapt, including creating, maintaining and disrupting institutional changes, especially for social acceptance and to retain students (Meyer & Rowan, 1977; DiMaggio & Powell, 1983; Lawrence & Suddaby, 2006, Bao, 2020, Ali, 2020).

Hence, we propose further studies to evaluate the institutional work contribution by HEIs' senior management teams by drawing on a paradigm of the institutional theory that is institutional work which is defined as "the purposive action of individuals and organizations aimed at creating, maintaining and disrupting institutions" (Lawrence & Suddaby, 2006, p. 215). Enders and Naidoo (2018) reveal that institutional theory is one of the dominant research perspectives for the study of organisations and has also influenced scholarly work on universities and HEIs as organisations.

The early neo-institutional theory emphasised on the notion of isomorphism and organisation's legitimacy is dependent on its adaptation to widely accepted norms (Meyer & Rowan, 1977; DiMaggio & Powell, 1983), and "depicts organisational fields and their members as rather passive recipients of institutional frameworks that would eventually lead to organisational isomorphism" (Enders & Naidoo, 2018, p. 3).

Moreover, DiMaggio and Powell (1983) highlight the three forms of isomorphic practices like coercive, mimetic and normative that have enabled to diffuse and sustain new organisational practices. Coercive isomorphic form is for instance gaining legitimacy

by adhering to regulatory pressures and stems from political influence (Arena & Azzone, 2007; Mihret et al., 2012). Furthermore, the basic ideology of mimetic isomorphism is when an organisation encounters uncertainty; it may model itself on another organisation that has achieved social acceptance in the same industry (DiMaggio & Powell, 1983; Arena & Azzone, 2007). Moving to normative isomorphism which is the third source of isomorphic change stems primarily from the impact of the profession (DiMaggio & Powell, 1983; Mihret et al., 2012). In addition, the early works on neo-institutional theory assert that the institutional arena is full of several exogenous pressures that influence the behaviour and structure of an organisation (Dacin, 1997).

However, a recent body of institutional theory has emphasised on the role of agents in disrupting existing institutions and creating and maintaining novel institutions (Lawrence & Suddaby, 2006). Indeed, new institutions arise when influential agents (institutional entrepreneurs) see in them an opportunity to realise interest that they value highly (DiMaggio, 1988). Suddaby (2010) argues that to better understand how institutional meanings are interpreted within organisations, institutional theorists may focus research on internal perspectives (organised actors). Those organised actors within the organisations with sufficient resources will identify problems leading to institutional change based on proposed solutions and legitimate alternative social practices (Lawrence & Suddaby, 2006). In addition, organisations themselves can influence the socio-cultural environment, for instance with the expanding globalisation, all of which directs that they have very powerful agencies (Suddaby & Tsujiguchi, 2018).

Institutional entrepreneurship has found limited research in the study of HEIs and depicts the opportunity to explore the concept of agency and institutional work in the context of universities and other similar institutions (Enders & Naidoo, 2018). Institutional work is demanded for actors "who mediate between the organisation and its environment, who provide meaning to institutional pressures, who can theorise the failure of existing norms and practices and provide legitimacy to new norms and practices" (Enders & Naidoo, 2018, p. 3).

In this sense, our study is calling for further research as an attempt towards ascertaining the extent of institutional work by the senior management teams at HEIs relating to the switch to online teaching and learning platform amidst COVID-19 resulting in the disruption of an existing institution. In addition, we are proposing that by employing institutional work as the theoretical lens of the study to explore whether the senior management teams are positioned as empowered leaders of change to coercively as well as persuasively implement the alternative online teaching and learning platform and thus disrupting existing institutions for the benefit of its major stakeholder, the students. This study is an attempt to draw attention to the potential contribution to the limited literature on institutional work in the context of HEIs.

We propose that further research may employ a case-study approach for a profound analysis using multiple sources of data (Yin, 1994). Moreover, in the quest to enhance the validity of the findings, we suggest interviews with HEIs' senior management teams and expected data from documents to be examined related to the institutions may provide patterns that evolved from the reviewed pieces of literature (Mihret & Yismav, 2007; Azam & Nandan, 2021). Following the proposed theoretical framework, institutional

work (Lawrence & Suddaby, 2006), "a case study protocol may be served as the guide in designing data collection instruments, collecting the data, analysing the data and drawing conclusions" (Mihret & Yismav, 2007, p. 473-474). Thus, the proposed empirical analysis will evaluate HEIs senior management teams' potential to bring acceptable institutional change for social acceptance (Meyer & Rowan, 1977; DiMaggio & Powell, 1983; Lawrence & Suddaby, 2006) and probably to ensure teaching and learning are unaffected in the wake of COVID-19 pandemic and lockdowns.

Author's Contributions

Mohammed Riaz Azam came up with the idea to collaborate on this research. He contributed to the purpose, methodology, findings, discussion and motivation of the study. He proposes that the study be looked at through the lens of the institutional work perspective, which is a paradigm of the institutional theory. Shireen Nisha contributed to the literature review, findings and discussions. Jafreen Khan also contributed to the introduction, literature review, findings and discussions of the study. Coming from an English language teaching background, she also proofread the paper.

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Viewpoint

Corporate Social Responsibility and Reaction Functions of Labor-Managed Firms with Lifetime Employment as Strategic Commitment

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Abstract

This paper examines an oligopoly game model with a concave demand function where labor-managed firms compete in quantities with each other. There is no possibility of entry or exit. The timing of the game is as follows. In the first stage, each labor-managed firm simultaneously and independently chooses the level of social concern. In the second stage, each labor-managed firm simultaneously and independently chooses whether to offer lifetime employment as a strategic commitment device. In the third stage, quantity competition takes place. This paper examines the reaction functions of labor-managed firms in the model. First, the paper presents the reaction functions of labor-managed firms in the game model. It is shown that the reaction functions of labor-managed firms have both upward and downward sloping cases. Next, the paper provides a simple example to support the above result. This example shows a case in which the reaction functions of labor-managed firms are downward-sloping.

Keywords: Corporate social responsibility, Cournot model, labor-managed firms, lifetime employment, reaction functions.

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Introduction

Corporate social responsibility (CSR) has become a growing topic in the areas of business and economics over the past few decades. For example, nearly 90 percent of the 250 largest global companies issued CSR reports in 2015 (KPMG, 2015). More than half of American consumers say that more information on a company's ethical and social behavior would influence their purchasing decision (Ipsos MORI, 2003; Kitzmueller and Shimshack, 2012). Many major companies, such as Google, Microsoft, General Electric, Exxon Mobil, Walmart, and Walt Disney, use an internal price on carbon as an incentive and strategic planning tool (CDP, 2013).

The theoretical analysis of economic models that incorporate CSR firms has been investigated by many researchers (see Goering, 2007; Lambertini and Tampieri, 2012; Xu, 2014; Cracau, 2015; Flores and García, 2016; Fanti and Buccella, 2018; Planer-Friedrich and Sahm, 2018; García, Leal and Lee, 2019; Han, 2019; Leal, Garcia and Lee, 2019). For example, Lambertini and Tampieri (2012) examine an oligopoly market with pollution where $n(\geq 2)$ private firms compete with each other, and show that the presence of a CSR firm improves social welfare if the market is large. Kopel and Brand (2012) consider the managerial incentive contract when a profit-maximizing firm and a CSR firm compete in a Cournot fashion, and demonstrate that there is a subgame perfect Nash equilibrium in which both firms hire managers. Kopel (2015) considers the endogenous choice of a price or quantity contract in a mixed duopoly consisting of a profit-maximizing firm and a CSR firm, and demonstrates that quantity competition might lead to higher economic welfare than price competition. Han (2019) uses a quantity-setting mixed oligopoly model to examine effects of firms' CSR activities on privatization of a public firm, and shows that the optimal degree of privatization decreases with the firms' CSR activities. In addition, Leal, García and Lee (2019) examine the environmental policy mix of tradable emission permits and emission taxes in a duopoly model consisting of a CSR firm and a profit-maximizing firm, and show that an emission tax can be redundant when both excess burden of taxation and the degree of CSR are insignificant.

In this paper, we examine an oligopoly game model in which labor-managed firms compete with each other. Since the pioneering work on a theoretical model of a labor-managed firm by Ward (1958), there have been many theoretical models that incorporate labor-managed firms (see, for example, Law and Stewart, 1983; Lambertini and Rossini, 1998; Lambertini, 2001; Cuccia and Cellini, 2009; Luo, 2013).

We consider a three-stage game model in which labor-managed firms compete in quantities. In the first stage, each labor-managed firm non-cooperatively chooses the level of CSR. In the second stage, each labor-managed firm non-cooperatively chooses whether to offer lifetime employment as a strategic commitment device (For details, see Ohnishi,

2001, 2002). In the third stage, each labor-managed firm non-cooperatively chooses an actual output level. We examine the reaction functions of labor-managed firms in the model.

Model

There is a market composed of $n(\geq 2)$ labor-managed firms. There is no possibility of entry or exit. The market price is determined by the inverse demand function $p(Q)$, where $Q = \sum_{i=1}^{n} q_i$ denotes the total output produced by all labor-managed firms. We assume the strictly concave inverse demand function: $p' < 0$ and $p'' < 0$.

In the first stage of the market game, each labor-managed firm i ($i = 1,\ldots,n$) simultaneously and independently chooses $\theta_i \in [0,1]$, which denotes the percentage of the consumer surplus, $CS = \int_0^Q p(X)dX - p(Q)Q$. In the second stage, each labor-managed firm i simultaneously and independently decides whether to offer lifetime employment as a strategic commitment device. If labor-managed firm i offers lifetime employment, then it chooses an output level $q_i^* \in (0, \infty)$, employs the necessary number of employees to produce q_i^*, and enters into a lifetime employment contract with all of the employees. In the end of the game, each labor-managed firm i simultaneously and independently chooses an actual output $q_i \in [0, \infty)$.

Hence, labor-managed firm i's objective function is given by

$$
\Omega_i = \begin{cases} \theta_i \left[\int_0^Q p(X)dX - p(Q)Q \right] + \dfrac{p(Q)q_i - c(q_i) - f}{l(q_i)} & \text{if } q_i > q_i^*, \\[3mm] \theta_i \left[\int_0^Q p(X)dX - p(Q)Q \right] + \dfrac{p(Q)q_i - c(q_i) - f}{l(q_i^*)} & \text{if } q_i \leq q_i^*, \end{cases} \tag{1}
$$

where $c(q_i)$ denotes the capital input function, $f \in (0, \infty)$ is the fixed cost, and $l(q_i)$ is the labor input function. We assume the increasing marginal costs: $c' > 0$, $c'' > 0$, $l' > 0$ and $l'' > 0$.

In the next section, we present the reaction functions of labor-managed firms in the model.

Reaction Functions

We consider the maximization problem for labor-managed firm i. We derive labor-managed firm i's best reaction function from (1). If labor-managed firm i produces output q_i within the limit of the output level it has chosen in the first stage, then its reaction function is defined by

$$\bar{R}_i(q_{-i}) = \arg\max_{q_i \geq 0} \left\{ \theta_i \left[\int_0^Q p(X) dX - p(Q)Q \right] + \frac{p(Q)q_i - c(q_i) - f}{l(q_i^*)} \right\}, \tag{2}$$

where $q_{-i} = (q_1, q_2, \ldots, q_{i-1}, q_{i+1}, \ldots, q_n)$. On the other hand, if labor-managed firm i wishes to produce $q_i > q_i^*$, then its reaction function is defined by

$$R_i(q_{-i}) = \arg\max_{q_i \geq 0} \left\{ \theta_i \left[\int_0^Q p(X) dX - p(Q)Q \right] + \frac{p(Q)q_i - c(q_i) - f}{l(q_i)} \right\}. \tag{3}$$

Therefore, if labor-managed firm i selects q_i^* and offers lifetime employment, then its best reply is shown as follows:

$$R_i^L(q_{-i}) = \begin{cases} R_i(q_{-i}) & \text{if } q_i > q_i^*, \\ q_i^* & \text{if } q_i = q_i^*, \\ \bar{R}_i(q_{-i}) & \text{if } q_i < q_i^*. \end{cases} \tag{4}$$

Labor-managed firm i chooses q_i in order to maximize Ω_i, given q_{-i}. Therefore, the first-order condition for labor-managed firm i when $q_i > q_i^*$ is

$$(p + p'q_i - rk')l - (pq_i - rk - f)l' - \theta_i p'Q = 0. \tag{5}$$

On the other hand, the first-order condition for labor-managed firm i when $q_i < q_i^*$ is

$$p + p'q_i - c' - \theta_i l^* p'Q = 0. \tag{6}$$

Therefore, we obtain

$$R_i'(q_{-i}) = -\frac{p'(l - q_i l') - p''q_i l - \theta_i p' - \theta_i p''Q}{(2p' + p''q_i - c'')l - (pq_i - c - f)l'' - (1+Q)\theta_i p''} \tag{7}$$

and

$$\bar{R}_i'(q_{-i}) = -\frac{p' + p''q_i - \theta_i l^* (p' + p''Q)}{2p' + p''q_i - c'' - \theta_i l^* (p' + p''Q)}. \tag{8}$$

Since $l'' > 0$, $l - q_i l' < 0$, and hence $p'(l - q_i l') - p''q_i l$ is positive. The numerator of (7) is positive. On the other hand, the numerator of (8) may be negative.

The main result of this study can be stated in the following proposition.

Proposition 1: (i) $R_i(q_{-i})$ is always upward-sloping. (ii) $\bar{R}_i(q_{-i})$ may be not always upward-sloping.

In the next section, we provide a simple example to support this proposition.

Example

We consider the strictly concave inverse demand function: $p(q_1, q_2) = a - (q_1 + q_2)^2$, where $a \in (0, \infty)$ represents a constant and $a > q_1 + q_2$. Moreover, $c(q_j) = mq_j^2$ $(j = 1,2)$ and $l(q_j) = wq_j^2$, where $m, w \in (0, \infty)$ are constants. The objective functions of labor-managed firms are those specified in the previous sections. Therefore, the first-order condition for labor-managed firm j when $q_j > q_j^*$ is

$$2\theta_j \left(q_j + q_k \right)^2 - \frac{aq_j + 3q_j^2 - 2q_j^3 - q_j q_k^2 - 2f}{q_j^3} = 0 \quad (j, k = 1, 2; j \neq k). \tag{9}$$

On the other hand, the first-order condition for labor-managed firm j when $q_j < q_j^*$ is

$$2\theta_j \left(q_j + q_k \right)^2 - \frac{a - 3q_j^2 - 4q_j q_k - q_k^2 - 2cq_j}{wq_j^{*2}} = 0. \tag{10}$$

The former reaction function is always upward-sloping, whereas the later reaction function is upward-sloping if and only if

$$\theta_j > \frac{2q_j + q_k}{2wq_j^{*2} \left(q_j + q_k \right)}. \tag{11}$$

We now assume that $q_j = q_j^* = q_k = 2$ and $w = 1$. Then, if $\theta_j > 3/16$, labor-managed firm j's reaction function is upward-sloping, whereas if $\theta_j < 3/16$, it is downward-sloping.

Conclusion

We have studied a Cournot oligopoly model with a concave demand function where labor-managed firms compete with each other and have presented the reaction functions of labor-managed firms in the game model. First, we have shown that the reaction functions of labor-managed firms have both upward and downward sloping cases. Next, we have provided an example to support our result. In this example, we have shown a case in which the reaction functions of labor-managed firms are downward-sloping.

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