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Glavna in odgovorna urednica:
Darja Boršič

Pomočnica glavne in odgovorne urednice:
Romana Korez Vide

Naslov uredništva:
Maribor, Razlagova 14, Slovenija,
telefon: +386 2 22 90 112

Elektronska pošta:
nase.gospodarstvo@um.si

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Editor-in-Chief:
Darja Boršič

Co-editor:
Romana Korez Vide

Editorial and administrative office address:
Maribor, Razlagova 14, Slovenia,
phone: +386 2 22 90 112

E-mail:
our.economy@um.si

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Vsebina / Contents

External Habits Formation and the Environment

Fatma Safi
University of Sfax
Faculty of Economics and Management, Department of Economics, Tunisia
fatma_safi@yahoo.fr

Abstract

The present paper presents a standard overlapping generations model with external habits formation and environmental quality in the utility function. Our main objective is to study the impact of external habits on capital accumulation and environmental quality on the intertemporal competitive equilibrium. We notice that striving for status leads to environment worsening and capital increasing when the cohort size is large.

Keywords: external habits, overlapping generations, environmental quality

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Introduction

The economic theory states that an individual will buy a product once the intrinsic satisfaction of the actual product surpasses the price of the product, although, this does not take into consideration the status a certain good will provide them with. Mostly, the behavior of the consumer is affected by much more than utility maximization. Consumers consider the price of the product, its quality, how it works, what it represents, and many other aspects that are not simple to determine, and personal to each individual in order to evaluate a good and its utility. The consumer will also view, before making a purchasing decision, the consumption habits of his or her peers. The consumption reference levels generate a consumption externality. The consumer forms then external habits by driving for social position.

External habit formation has long been considered an essential factor of human behavior. Status concern is another characteristic feature of consumption decisions. It influences the analysis of the relationship between consumption decisions and their associated externalities regarding environmental quality. The concept of external habit formation postulates that if the agent's utility is influenced by either average current or average lagged consumption in the economy, then the agent is "keeping up with the Joneses" or "catching up with the Joneses", respectively and the agent is "outward-looking" (de la Croix, 1996; de la Croix & Michel, 1999). With external habit formation, the build-up level of average past consumption in the economy at large influences the current utility of an individual consumer. The outward habit is a kind of intertemporal consumption externality, and the consumer does not internalize outward habits when making his optimal decision. Using household-level data, Hung et al. (2015) supports the presence of temptation features and self-control problems.

For a long time, these kinds of “extended preferences”, following Becker’s (1997) terminology, have been cut off from environmental issues. However, recently, several authors have introduced habits in pollution or in environmental quality. The importance of taking the own consumption position relative to the average past consumption in the economy into account when addressing the relationship between status and environmental externalities was already emphasized by Ng and Wang (1993), who discuss the relationship between relative income (status) and environmental deterioration generated from over-consumption. Howarth (1996, 2006) and Wendner (2003, 2005) examine the relationship between status impacts and the design of optimal environmental policies. These papers suggest that status desire causes environmental degradation. Brekke et al. (2002) estimate the Hirsch (1976) hypothesis, i. e. status desire enhances consumption at the cost of environmental deterioration. They show that this only remains true when status is represented as the difference between one’s agent consumption and the average consumption of society, and if status and non-status goods are poor substitutes. Long and Wang (2009) focus on renewable resource extraction by a finite number of status seeking individuals who interact strategically. They show that status seeking decreases society’s growth rate. Alvarez-Cuadrado and Long (2011) show that since status-seeking households overvalue consumption, their eagerness to gain further consumption is higher than the efficient level. Therefore, they over-exploit resources, generating a steady-state stock level that is lower than the efficient level. Second, even when the effort is costless, consumption externalities might interfere with the enthusiasm to shift consumption through time, generating an inefficient path of extraction. This is *dynamic distortion*. Eckerstorfer and Wendner (2013) study optimal linear commodity taxation in a two-good economy, where one of the goods is positional and the other non-positional. Their main contribution is to explore tax policy consequences of non-atmospheric (agents differ in their contribution to the externality) and asymmetric consumption externalities and to examine the joint tax policy implications of relative consumption concerns and inequality-aversion. Aronsson and Johansson-Stenman (2014) examine the optimal provision of state variable public goods by taking global climate as an example in a setting where individuals are concerned by relative consumption. Goerke and Hellesheim (2013) conclude that agents under certain conditions supply more labor if they are concerned with their status than they would in an undistorted economy without relative concerns. Bouché (2017) focuses on the analysis of the optimal allocation and its decentralization by means of an appropriate tax policy. She finds that a sufficiently high social discount factor is important to prevent possible local oscillations. Besides, investment should either be subsidized or taxed contingent on the magnitude of environmental degradation and aspirations while maintenance investment should always be subsidized. Bouché and de Miguel (2019) explore the repercussions of assuming that the intensity of aspirations is endogenous. They show that such a change in the intensity of aspirations induce a U-shaped relationship between capital accumulation and environmental quality.

Our paper can be linked to models that have brought in external habitimpacts in dynamic models in relation to environmental issues. We can refer to the works of Wendner (2003, 2005) and Brekke and Howarth (2003), who examine the consequences of environmental externalities when relative consumption is concerned. In the present paper, we choose to explore the consequence of environmental externalities when external habits are brought in the utility function such that the cohort size matters. We put into consideration the question of whether the status seeking behavior leads individuals to “over-consume”, and thus to overuse the environment relatively to a social optimum. Our main contribution is to formalize, in an overlapping generations framework of John and Pecchenino (1994), a model in which agents exhibit external habits in consumption. The agents are subject to environmental constraints in which consumption from both young and old generations negatively influence the environmental quality which can be at least partially ameliorated by maintenance spending. We focus particularly on the impact of external habits on the capital and the environment on the laissez-faire equilibrium.

This paper is organized as follows. In Section 2, we introduce the model. Section 3 outlines the optimization problem. Section 4 characterizes the equilibrium. In Section 5, we sketch the steady state. In Section 6, we provide a numerical analysis. Section 7 concludes the study.

The Model

An overlapping generations model offers the framework for the analysis. The motivation for using this kind of model for analyzing an environmental externality follows from the fact that economic activities of a generation born at time t generate environmental damage not only in periodt, but also in all future periods $t+1, t+2, ..., t+n$.

Nevertheless, if a finitely-lived generation born at t is alive for only $k<n$ periods, it would not consider environmental degradation beyond period $t+k$, that is it does not consider the external costs caused for generations still alive after period $t+k$. Thus, the use of an infinitely-lived individuals’ model would obscure the relationship between generations that cause environmental damages and generations that bear the costs of these damages.

We assume a fully competitive overlapping generations economy where economic activity is operated over infinite discrete time. Agents live two periods. We define by generation t the cohort of agents born at t, with t=1,2,3,… Each young generation consists of L_t identical individuals (except for their ages). For the purpose of simplicity, we suppose a zero-growth rate of the population. I.e., $L_t=L$ for every t[1] and each young and old generation consists of L individuals.

Each generation lives for two periods, youth, and old age. The generation obtains utility from consumption in both periods and environmental quality in old age. Let c_t^1 denote consumption of generation t in the first period (youth), c_{t+1}^2 consumption of generation t in the second period (old age). The young generation receives a wage rate w_t per unit of labor. This is allocated to consumption c_t^1, savings s_t and maintenance investment m_t. Both savings and gross return on savings R are fully consumed by the old generation. The elderly do not contribute to environmental maintenance since they do not enjoy future environmental improvements. We are not claiming that old people are not interested at all in environmental maintenance, but that they are interested to a smaller extent than the young are.

The individuals' constraints over the two periods can therefore be summarized as follows:

$$w_t = c_t^1 + s_t + m_t\ , \tag{1}$$

$$c_{t+1}^2 = R_{t+1}\, s_t\ . \tag{2}$$

These constraints are summarized as the life-cycle budget constraint:

$$c_t^1 + c_{t+1}^2 / R_{t+1} + m_t = w_t\ . \tag{3}$$

Individuals derive utility not only from their absolute consumption levels and from environmental quality, but also from the status attained by consuming at above-average levels. Hence, seeking status may induce higher consumption levels and thus, relative to a social optimum, overuse of the environment.

The individual's utility U is derived from consumption and environmental quality in the first and second periods. It is twice continuously differentiable, increasing in all arguments and strictly concave, where $U'>0$ and $U''<0$. Preferences of each individual are defined by the log-linear lifetime utility U:

$$U = In\tilde{c}_t^1 + In\tilde{c}_{t+1}^2 + lnE_t + lnE_{t+1}\ . \tag{4}$$

Each variable of the utility function $\tilde{c}^1$, $\tilde{c}^2$ and E_t is discussed afterwards.

In the present analysis, the economy is in front of two types of intergenerational externality. The first one is attributable to external habits as a frame of reference originating in the consumption relative to the average one. The second is attributable to the effect of present consumption decisions on the level of environmental quality enjoyed by upcoming generations. Individuals derive utility not only from environmental quality. They also gain utility from status (external habit stock) which is obtained by a high consumption level relative to average consumption.

Variable E denotes environmental quality, which is an intergenerational public good. As in John and Pecchenino (1994), the index of environmental quality evolves according to the equation:

$$E_{t+1} = E_t - \beta\left(\sum_{i=1}^{L}(c_t^1)^i + \sum_{j=1}^{L}(c_t^2)^j\right) + \delta\sum_{i=1}^{L}(m_t)^i\ . \tag{5}$$

The superscripts i and j represent respectively a single individual from young and old generations. E_t is the environment quality in period t, E_{t+1} is the environment quality in period $t+1$, $\beta>0$ stands for the degradation of the environment and $\delta>0$ is the environmental improvement due to the actions of the young at t.

This index may incorporate the inverse of the concentration of chlorofluorocarbons in the atmosphere, the inverse of other greenhouse gases, the quality of groundwater, or an index of biodiversity.

We introduce the external habits in consumption following the work of Wendner (2005). The variable $\tilde{c}_t^1$ defines effective consumption of a single individual in the first period of life:

$$\tilde{c}_t^1 \equiv c_t^1 - \gamma C_t\ , \tag{6}$$

where C_t is the average consumption across all individuals[2] such that:

$$C_t \equiv \left(\sum_i (c_t^1)^i + \sum_j (c_t^2)^j\right) / (L_t + L_{t-1}) = \frac{(\sum_i (c_t^1)^i + \sum_j (c_t^2)^j)}{2L}. \tag{7}$$

In aggregate, if all individuals behave the same way,

$$C_t \equiv (L_t c_t^1 + L_{t-1} c_t^2) / (L_t + L_{t-1}) = (c_t^1 + c_t^2)/2\ . \tag{8}$$

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[1] John et al. (1995) set up a model with environmental externalities and population growth. They state that a higher population growth rate reduces environmental quality per capita but could increase the aggregate quality of the environment.

[2] This formulation of status is equal to the keeping up with the Joneses formulation utilized in Ljungqvist and Uhlig (2000).

Individuals take C_t as given. Each person's status rises with his own consumption but reduces with the average consumption of society. The parameter $0<\gamma<1$ expresses the desire of households for status. The higher γ is, the younger individuals care for status and for the consumption level of their peers.

Variable $\tilde{c}^2_{t+1}$ denotes effective consumption of an individual born in t in the second period of life:

$$\tilde{c}^2_{t+1} \equiv c^2_{t+1} - \gamma C_{t+1}\,. \tag{9}$$

Substituting equation (8) into (6) gives

$$\tilde{c}^1_t = \frac{(2-\gamma)\,c^1_t - \gamma c^2_t)}{2} \tag{10}$$

Similarly, substituting equation (8) into (9) gives

$$\tilde{c}^1_{t+1} = \frac{(2-\gamma)\,c^2_t - \gamma c^1_t)}{2} \tag{11}$$

The law of motion of capital is given by the equilibrium relation between savings and investment. As we have assumed full depreciation of capital[3], net savings determine the capital stock in the next period, as in Diamond (1965). In intensive terms the accumulation rule for capital can be written as

$$k_{t+1} = s_t\,. \tag{12}$$

The firms are perfectly competitive profit maximizers that produce output using the production function: $F(K_t, L_t)=Y_t$. The capital stock in period t is K_t. The employment in period t is L_t. The level of output in period t is Y_t. The production function can be written in the intensive form:

$$y_t = f(k_t)\,, \tag{13}$$

where y_t and k_t are output and capital per worker respectively, and $f(k) \equiv F(k,1)$. We suppose that the per capita production function, $f(k_t)$, satisfies the standard neoclassical properties. The production function $f: R_+ \longrightarrow R_+$ has the following properties. It is twice continuously differentiable, increasing and strictly concave. In particular, $f'(k_t)>0; f''(k_t)<0; kf''(k)+f'(k)>0$ for every $k>0$. Moreover, we impose that $\lim_{k\to\infty} f'(k_t)=0$, $\lim_{k\to 0} f'(k_t)=\infty$ and $f(0)=0$.

At each time t, the output per unit labour $y_t=f(k_t)$ is allocated to maintenance expenditure, consumption, and capital investment.

[3] In the overlapping generations model, since one period is set at least as 25 years long, the assumption of 100% capital depreciation is realistic.

The Optimization Problem

Let $t=1$ be the initial period. Individuals from generation t face consumption externalities both when young at t and when old at $t+1$. The externality at $t+1$ is affected by the consumption of other old people at $t+1$, and it is also affected by consumption of the next generation of young people at $t+1$. This creates an intergenerational externality, and it is a potential source of multiplicity of equilibria.

The optimization problem for individuals i of generation t is

$$\underset{c_t^{1i}, c_{t+1}^{2i}, m_t^i, E_{t+1}}{\text{maximize}} \;\ln\left[c_t^{1i} - \gamma(c_t^{1i} + C_t^{-1i})/(2L)\right] + \ln\left[(c_{t+1}^{2i} - \gamma(c_{t+1}^{2i} + C_{t+1}^{-2i})/(2L)\right] + \ln E_t + \ln E_{t+1}$$

$$subject\; c_t^{1i} + c_{t+1}^{2i}/R_{t+1} + m_t^i = w_t \tag{14}$$

$$E_{t+1} = E_t - \beta(c_t^{1i} + C_t^{-1i}) + \delta\left(m_t^i + M_t^{-i}\right) \tag{15}$$

where individual i takes as given C_t^{-1i}, C_{t+1}^{-2i} and M_t^{-i}. In equilibrium we must have

$$C_t^{-1i} = \sum_{j=1}^{L} c_t^{1j} + \sum_{j=1}^{L} c_t^{2j} - c_t^{1i}, t \geq 1$$

$$C_{t+1}^{-2i} = \sum_{j=1}^{L} c_{t+1}^{1j} + \sum_{j=1}^{L} c_{t+1}^{2j} - c_{t+1}^{2i}, t \geq 1$$

$$M_t^{-i} = \sum_{j=1}^{L} m_t^j - m_t^i, t \geq 1.$$

Use the budget constraint (14) to eliminate c^{2i}_{t+1} in the objective function, and use the environmental law of motion (15) to eliminate E_{t+1}:

$$\underset{c_t^{1i}, m_t^i}{maximize}\; ln\left[\left(1-\frac{\gamma}{2L}\right)c_t^{1i} - \frac{\gamma}{2L}C_t^{-1i}\right] + ln\left[\left(1-\frac{\gamma}{2L}\right) R_{t+1}\left(w_t - m_t^i - c_t^{1i}\right) - \frac{\gamma}{2L}C_{t+1}^{-2i}\right] + lnE_t + \ln\left[E_t - \beta(c_t^{1i} + C_t^{-1i}) + \delta\left(m_t^i + M_t^{-i}\right)\right]$$

For all $t \geq 1$, the first order conditions for interior solutions for c_t^{1i} and m_t^i respectively are

$$0 = \frac{1-\frac{\gamma}{2L}}{\left(1-\frac{\gamma}{2L}\right)c_t^{1i} - \frac{\gamma}{2L}C_t^{-1i}} - \frac{\left(1-\frac{\gamma}{2L}\right)R_{t+1}}{\left(1-\frac{\gamma}{2L}\right)c_{t+1}^{2i} - \frac{\gamma}{2L}C_{t+1}^{-2i}} - \frac{\beta}{E_{t+1}}, \tag{16}$$

$$0 = \frac{\left(1-\frac{\gamma}{2L}\right)R_{t+1}}{\left(1-\frac{\gamma}{2L}\right)c_{t+1}^{2i} - \frac{\gamma}{2L}C_{t+1}^{-2i}} - \frac{\delta}{E_{t+1}}. \tag{17}$$

Subtract (17) from (16) to get

$$0=\frac{1-\frac{\gamma}{2L}}{\left(1-\frac{\gamma}{2L}\right)c_t^{1i}-\frac{\gamma}{2L}C_t^{-1i}}-\frac{\delta+\beta}{E_{t+1}},t\geq 1. \quad (18)$$

Equations (17) and (18), together with the budget equation (14) and the environmental law of motion (15), characterize individual behavior.

We can substitute the expressions of C_t^{-1i} and C_{t+1}^{-2i} into (17) and (18), then add $((\delta+\beta)/E_{t+1})$ to both sides of (18) and (δ/E_{t+1}) to both sides of (17). Since all individuals within each generation are identical, we can drop the superscripts *i* and *j*. The result is the following:

$$\left(1-\frac{\gamma}{2L}\right)R_{t+1}\frac{1}{\tilde{c}_{t+1}^2}=\delta\frac{1}{E_{t+1}}, \quad (19)$$

$$\left(1-\frac{\gamma}{2L}\right)\frac{1}{\tilde{c}_t^1}=(\delta+\beta)\frac{1}{E_{t+1}}. \quad (20)$$

Equation (19) shows that generation t chooses savings, equating the marginal rate of substitution between the effective consumption in old age and environmental quality in old age to the marginal rate of transformation, $\delta/\left(\left(1-\frac{\gamma}{2L}\right)R_{t+1}\right)$. At the utility maximum, a decrease in utility due to falling consumption during old age, $\left(1-\frac{\gamma}{2L}\right)R_{t+1}$, is equal to an increase in utility due to an increase in maintenance effort, δ.

Equation (20) indicates that generation t chooses consumption when young, equating the marginal rate of substitution between consumption in youth and environmental quality in old age to the marginal rate of transformation, $(\delta+\beta)/\left(1-\frac{\gamma}{2L}\right)$. At the utility maximum, a decrease in utility due to falling consumption during youth is equal to an increase in utility due to the sum of an increase in maintenance effort, $\delta/\left(1-\frac{\gamma}{2L}\right)$, and a decrease in a consumption externality, $\beta/\left(1-\frac{\gamma}{2L}\right)$.

Assuming perfect competition in the factor markets, profit maximization in the choice of labor by firms implies that the marginal product of labor must be equated to the real wage. The marginal product of labor is obtained by noting that $Y_t=L_t f(k_t)$, so that

$$\frac{\partial Y_t}{\partial L_t}=f(k_t)-k_t f'(k_t).$$

The optimum choice of labor therefore satisfies

$$W_t=f(k_t)-k_t f'(k_t), \quad (21)$$

Similarly, the optimum choice of capital equates the rate of interest to the net marginal product

$$R_t=f'(k_t). \quad (22)$$

Competitive Equilibrium

A competitive equilibrium for the economy under analysis is a sequence $\left\{c_t^1, c_{t+1}^2, m_t, w_t, r_t, s_t, k_t, E_t\right\}_{t=0}^{\infty}$ such that, given the initial conditions of the state parameters k_0 and E_0: i) firms maximize profits; ii) consumers maximize their utility function; iii) markets clear.

Under the hypothesis that $m>0$[4] and by using equation (10), equation (19) can be rewritten as follows

$$c_t^1=\frac{\gamma}{2-\gamma}c_t^2+\frac{(2L-\gamma)}{L(2-\gamma)(\delta+\beta)}E_{t+1}. \quad (23)$$

By substituting equations (12) and (22) into (2) we obtain

$$c_{t+1}^2=k_{t+1}f'(k_{t+1}). \quad (24)$$

Under the hypothesis that individuals are identical, we can rewrite (5) as

$$E_{t+1}=E_t-\beta L(c_t^1+c_t^2)+\delta L m_t. \quad (25)$$

Environmental quality is influenced by two economic activities: consumption and environmental expenditures. As (25) illustrates, the environmental quality at time $t+1$ is influenced by the consumption of the old individuals born in time t-1, i. e. the variable Lc_t^2, and by the consumption of the young individuals born in t, Lc_t^1 [5]. While young individualstake into account the environmental deterioration when old, they do not considerthe degradation of the environment and its effect on the future generations' utility in the periods afterwards. In other words, even though consumption of those now alive generates an environmental externality that affects future generations' utility, this impact is disregarded by current generations.

The environment is positively influenced by the environmental expenditures Lm_t. Nevertheless, while households' efforts decrease the existing stock of waste for themselves and for upcoming generations, the current generation cares only about its own welfare and disregards any benefits provided to its descendants. The assumption $\delta>0$ guarantees that investment in the environment has a positive impact

[4] We focus on the case of $m>0$. Notice that there is nothing in the model that prevents the possibility that $m_t=0$. For the case $m_t=0$ see John and Pecchenino (1994).

[5] We suppose that the pollution coefficient of c_t^1 is the same as that of c_t^2 since these consumption goods are homogeneous.

on environmental quality. The coeficients β and δ are supposed to be time invariant.

By substituting equations (14), (12), (21), (22), (23), (24), and (24) lagged once into (25), we get

$$E_{t+1} = E_t - \beta L\left(\frac{\gamma}{2-\gamma}k_t f'(k_t) + \frac{(2L-\gamma)}{L(2-\gamma)}\frac{1}{(\delta+\beta)}E_{t+1} + k_t f'(k_t)\right) + \delta L\left[f(k_t) - k_t f'(k_t) - \frac{\gamma}{2-\gamma}k_t f'(k_t) - \frac{(2L-\gamma)}{L(2-\gamma)}\frac{1}{(\delta+\beta)}E_{t+1} - k_{t+1}\right]. \tag{26}$$

It reduces to

$$E_{t+1} = E_t - \beta L\left(\frac{2}{2-\gamma}k_t f'(k_t) + \frac{(2L-\gamma)}{L(2-\gamma)}\frac{1}{(\delta+\beta)}E_{t+1}\right) + \delta L\left[f(k_t) - \frac{2}{2-\gamma}k_t f'(k_t) - \frac{(2L-\gamma)}{L(2-\gamma)}\frac{1}{(\delta+\beta)}E_{t+1} - k_{t+1}\right]. \tag{27}$$

By plugging equation (11), equation (19) can be rewritten as follows

$$\left(1-\frac{\gamma}{2L}\right)R_{t+1}\frac{2}{(2-\gamma)c_{t+1}^2 - \gamma c_{t+1}^1} = \delta\frac{1}{E_{t+1}}.$$

By simplifying and rearranging this equation, we obtain

$$c_{t+1}^2 = \frac{2\left(1-\frac{\gamma}{2L}\right)R_{t+1}}{(2-\gamma)\delta}E_{t+1} + \frac{\gamma}{2-\gamma}c_{t+1}^1.$$

Substituting equation (23) advanced once into the above equation leads to

$$c_{t+1}^2 = \frac{\left(1-\frac{\gamma}{2L}\right)}{2(1-\gamma)}\left[\frac{R_{t+1}(2-\gamma)}{\delta}E_{t+1} + \frac{\gamma}{(\delta+\beta)}E_{t+2}\right].$$

Substituting equations (24) and (22) advanced once into the above equation yields

$$k_{t+1}f'(k_{t+1}) = \frac{\left(1-\frac{\gamma}{2L}\right)}{2(1-\gamma)}\left[\frac{f'(k_{t+1})(2-\gamma)}{\delta}E_{t+1} + \frac{\gamma}{(\delta+\beta)}E_{t+2}\right]. \quad 28)$$

Equations (27) and (28) represent the law of motion for the environment.

Steady State

Since all parameters are constant in the steady state, time subscripts are eliminated. Let $\bar{k}$ and $\bar{E}$ indicate steady state values.

In steady state, equation (27) becomes

$$\bar{E} = -\beta L\frac{2}{(2L-\gamma)}\bar{k}f'(\bar{k}) + \delta L\frac{(2-\gamma)}{(2L-\gamma)}\left[f(\bar{k}) - \frac{2}{2-\gamma}\bar{k}f'(\bar{k}) - \bar{k}\right]. \tag{29}$$

In steady state, equation (28) becomes

$$\bar{E} = \frac{2(1-\gamma)\delta(\delta+\beta)\bar{k}f'(\bar{k})}{\left(1-\frac{\gamma}{2L}\right)\left[(2-\gamma)(\delta+\beta)f'(\bar{k}) + \delta\gamma\right]}. \tag{30}$$

The following analysis describes the comparative static behavior of the steady state of this model.

The differentiation of (29) and (30) taking β and δ as given yields

$$\begin{bmatrix}\Omega_1 & \Omega_2\\ \Omega_3 & \Omega_4\end{bmatrix}\begin{bmatrix}\partial\bar{E}\\ \partial\bar{k}\end{bmatrix} = \begin{bmatrix}\Omega_5\\ \Omega_6\end{bmatrix}\partial\gamma$$

Where:
$\Omega_1 = 1$.

By deriving (29) with respect to $\bar{k}$, we get

$$\Omega_2 = \frac{2\beta L}{2L-\gamma}(f' + \bar{k}f'') - \frac{\delta L(2-\gamma)}{2L-\gamma}\left[f' - \frac{2}{2-\gamma}(f' + \bar{k}f'') - 1\right].$$

By simplifying and rearranging Ω_2, we obtain

$$\Omega_2 = \frac{2L}{2L-\gamma}(f' + \bar{k}f'')(\beta+\delta) + \frac{\delta L(2-\gamma)}{2L-\gamma}(1-f').$$

For our study we use a Cobb-Douglas function $f(k)=Ak^{\alpha}$, where $0<\alpha<1$ is the share of capital in the production process, A is a time-invariant productivity parameter.

Under our assumptions on the parameters and based on the following cases

$(\bar{k} = \bar{k}_{min}, \alpha \to 0) \Rightarrow (1-f') > 0,$

$(\bar{k} = \bar{k}_{min}, \alpha \to 1) \Rightarrow (1-f') = 0,$

$(\bar{k} = \bar{k}_{max}(\bar{k} \gg), \alpha \to 0) \Rightarrow (1-f') = 1,$

$(\bar{k} = \bar{k}_{max}(\bar{k} \gg), \alpha \to 1) \Rightarrow (1-f') > 0,$ we conclude that Ω_2 is positive for every $(\bar{k}, \alpha)$.

By deriving (30) with respect to $\bar{E}$, we get

$$\Omega_3 = \left(1-\frac{\gamma}{2L}\right)\left[(2-\gamma)(\delta+\beta)f' + \delta\gamma\right].$$

Ω_3 is positive given the assumptions on the parameters.

The expressions of Ω_4, Ω_5 and Ω_6 may be calculated similarly. We obtain

$$\Omega_4 = \overline{\mathrm{E}}\left(1 - \frac{\gamma}{2L}\right)(2-\gamma)(\delta+\beta)f" - 2(1-\gamma)\delta(\delta+\beta)\left(f^{'} + \bar{k}f"\right).$$

Ω_4 is negative given the assumptions on the parameters.

$$\Omega_5 = \frac{-2L}{(2L-\gamma)^2}\left[\delta(L-1)\left(f-\bar{k}\right) + (\delta+\beta)\bar{k}f^{'}\right].$$

Under our assumptions on the parameters and based on the following cases

$\left(\bar{k} = \bar{k}_{min}, \alpha \to 0\right) \Rightarrow \Omega_5 < 0,$

$\left(\bar{k} = \bar{k}_{min}, \alpha \to 1\right) \Rightarrow \Omega_5 < 0,$

$\left(\bar{k} = \bar{k}_{max}\left(\bar{k} \gg\right), \alpha \to 1\right) \Rightarrow \Omega_5 < 0,$ we conclude that

$\Omega_5 < 0.$

$$\Omega_6 = -\left[(\delta+\beta)f'\overline{E}\left(\tfrac{\gamma-1-L}{L}\right) + 2\delta(\delta+\beta)\bar{k}f^{'} + \delta\overline{E}\left(1-\tfrac{\gamma}{L}\right)\right].$$

For $\gamma \to 0$ and from the numerical analysis of the following section, $\Omega_6 < 0$.

For $\gamma \to 1$ and from the numerical analysis of the following section, $\Omega_6 < 0$.

We conclude that Ω_6 is negative.

Consequently, the determinant of the left-hand-side matrix $|\Delta| = \Omega_1\,\Omega_4 - \Omega_2\,\Omega_3$ is negative.

The stability properties of the long-run equilibrium

The stability of the fixed point of the long-run equilibrium can be determined by examining the eigenvalues of the Jacobian matrix *J*. We first set up the Jacobian matrix of partial derivatives.

$$J_{(E,k)} = \begin{bmatrix} \frac{\partial E_{t+1}}{\partial E_t} & \frac{\partial E_{t+1}}{\partial k_t} \\ \frac{\partial k_{t+1}}{\partial E_t} & \frac{\partial k_{t+1}}{\partial k_t} \end{bmatrix} \qquad J = \begin{bmatrix} \Omega_1 & \Omega_2 \\ \Omega_3 & \Omega_4 \end{bmatrix}$$

Now, we evaluate the Jacobian matrix *J* at the steady state.

$$J_{(\overline{E},\bar{k})} = A = \begin{bmatrix} \Omega_1 & \Omega_2 \\ \Omega_3 & \Omega_4 \end{bmatrix}.$$

The eigenvalues are obtained by solving the characteristic polynomial P(λ)=det(A-λI)=0

$$P(\lambda) = \begin{vmatrix} \Omega_1 - \lambda & \Omega_2 \\ \Omega_3 & \Omega_4 - \lambda \end{vmatrix} = 0$$

$$P(\lambda) = (\Omega_1 - \lambda)(\Omega_4 - \lambda) - \Omega_2\Omega_3$$

$$P(\lambda) = \lambda^2 - (\Omega_1 + \Omega_4)\lambda + \Omega_4 - \Omega_2\Omega_3 = 0$$

$$\lambda_1 = \frac{\Omega_1 + \Omega_4 + \sqrt{(\Omega_1 - \Omega_4)^2 + 4\Omega_2\Omega_3}}{2} \tag{31}$$

$$\lambda_2 = \frac{\Omega_1 + \Omega_4 - \sqrt{(\Omega_1 - \Omega_4)^2 + 4\Omega_2\Omega_3}}{2}. \tag{32}$$

The eigenvalues are then λ_1 and λ_2. The stability properties of the long-run equilibrium can be studied by proving that the partial derivatives have moduli strictly less than one, that is $\lambda_i \leq 1$ for all i. In our case, we should be able to prove that

$$\begin{cases} \left|\frac{\Omega_1 + \Omega_4 + \sqrt{(\Omega_1 - \Omega_4)^2 + 4\Omega_2\Omega_3}}{2}\right| < 1 & (a) \\ \left|\frac{\Omega_1 + \Omega_4 - \sqrt{(\Omega_1 - \Omega_4)^2 + 4\Omega_2\Omega_3}}{2}\right| < 1 & (b). \end{cases}$$

Actually, we have λ_1 positive, hence we can write expression (a) as

$$\frac{\Omega_1 + \Omega_4 + \sqrt{(\Omega_1 - \Omega_4)^2 + 4\Omega_2\Omega_3}}{2} < 1,$$

and we have λ_2 negative, hence we can write expression (b) as

$$\frac{\Omega_1 + \Omega_4 - \sqrt{(\Omega_1 - \Omega_4)^2 + 4\Omega_2\Omega_3}}{2} > -1.$$

Thus, we obtain the following system of inequalities

$$\begin{cases} \frac{\Omega_1 + \Omega_4 + \sqrt{(\Omega_1 - \Omega_4)^2 + 4\Omega_2\Omega_3}}{2} < 1 \\ \frac{-\Omega_1 - \Omega_4 + \sqrt{(\Omega_1 - \Omega_4)^2 + 4\Omega_2\Omega_3}}{2} < 1. \end{cases}$$

We have $\Omega_1 = 1$. The system reduces to

$$\begin{cases} 1 + \Omega_4 + \sqrt{(1 - \Omega_4)^2 + 4\Omega_2\Omega_3} - 2 < 0 \\ -1 - \Omega_4 + \sqrt{(1 - \Omega_4)^2 + 4\Omega_2\Omega_3} - 2 < 0 \end{cases}$$

and this is true if

$$-3 + \sqrt{(1 - \Omega_4)^2 + 4\Omega_2\Omega_3} < \Omega_4 < 1 - \sqrt{(1 - \Omega_4)^2 + 4\Omega_2\Omega_3}.$$

Hence, we can conclude that the system converges to a long-run equilibrium which is asymptotically stable if $-3 + \sqrt{(1 - \Omega_4)^2 + 4\Omega_2\Omega_3} < \Omega_4 < 1 - \sqrt{(1 - \Omega_4)^2 + 4\Omega_2\Omega_3}$.

We next study the effects of external habit formation on the steady state equilibrium level of capital accumulation and environmental quality.

The conditions of the equilibrium characterize (a) two equation(s) system with two unknowns. The equilibrium condition system is a Cramer's system.

Let's note $J = \begin{bmatrix} \Omega_1 & \Omega_2 \\ \Omega_3 & \Omega_4 \end{bmatrix}$ and $P = \begin{bmatrix} \Omega_5 \partial\gamma \\ \Omega_6 \partial\gamma \end{bmatrix}$

This gives $J_1 = \begin{bmatrix} \Omega_5 \partial\gamma & \Omega_2 \\ \Omega_6 \partial\gamma & \Omega_4 \end{bmatrix}$ and $J_2 = \begin{bmatrix} \Omega_1 & \Omega_5 \partial\gamma \\ \Omega_3 & \Omega_6 \partial\gamma \end{bmatrix}$

$$\partial\overline{k} = \frac{|J_2|}{|\Delta|} = \frac{|\Omega_1\Omega_6\partial\gamma - \Omega_3\Omega_5\partial\gamma|}{|\Delta|}$$

$$\frac{\partial\overline{k}}{\partial\gamma} = \frac{1}{|\Delta|}\{\Omega_1\Omega_6 - \Omega_3\Omega_5\} > 0,$$

$$\partial\overline{E} = \frac{|J_1|}{|\Delta|} = \frac{|\Omega_4\Omega_5\partial\gamma - \Omega_2\Omega_6\partial\gamma|}{|\Delta|}$$

$$\frac{\partial\overline{E}}{\partial\gamma} = \frac{1}{|\Delta|}\{\Omega_4\Omega_5 - \Omega_2\Omega_6\} < 0 \cdot$$

Proposition: *Economies with higher external habit stock have worse environmental quality and accumulate more capital in steady state than economies with less external habit stock.*

To explicitly understand the results obtained, let us look at the marginal rates of substitution and determinate the status seeking impact on the environment.

$$MRS_{m,c^1} = \frac{U'_{c^1}}{U'_m} = \frac{(1-\gamma/2L)U_1 - \beta U_3}{\delta U_3}; MRS_{m,c^2} = \frac{(1-\gamma/2L)U_2}{\delta U_3};$$

$$MRS_{c^2,c^1} = \frac{(1-\gamma/2L)U_1 - \beta U_3}{(1-\gamma/2L)U_2}$$

where $U_1 = \frac{1}{\tilde{c}_t^1}$; $U_2 = \frac{1}{\tilde{c}_{t+1}^2}$ and $U_3 = \frac{1}{E_{t+1}}$.

External habits formation increases MRS_{m,c^1}. Thereby, $\frac{c^1}{m}$ has to rise becoming rational to move expenditures from maintenance to consumption in the first period c^1, i.e., earning a positive marginal utility of increased consumption early in life and also a positive marginal utility of the higher status while young: $\frac{\partial\tilde{c}^1}{\partial c^1} = \frac{2-\gamma}{2} > 0$. This has a negative effect on the environment. On the other hand, the increase in c^1 decreases savings resulting in a decline in consumption when old, which implies a positive effect on the environment, but a negative one on the capital. Moreover, external habit formation increases MRS_{m,c^2}. Thereby, $\frac{c^2}{m}$ has to rise becoming rational to move expenditures from maintenance to consumption in the second period c^2 i.e., earning a positive marginal utility of increased consumption in the second periodand also a positive marginal utility of the higher status while old: $\frac{\partial\tilde{c}^2}{\partial c^2} = \frac{2-\gamma}{2} > 0$. This has a bad environmental effect but a good effect regarding the capital accumulation. Then again, the presence of external habits in the utility function leads MRS_{c^2,c^1} to decrease which raises the rate of consumption growth becoming rational to reduce consumption early in life since the marginal status utility when old exceeds the marginal status utility when young. This has a good environmental effect. The decline in c^1 though, increases savings, which enhances the capital accumulation.

The characterization of the steady state shows that the bad effects of striving for status dominate the good effects, which explains the environment worsening. This result goes in the same direction of that obtained by Wendner (2003, 2005). As regards to the capital accumulation, the good effects dominate the bad ones which lead to capital increasing. This result differs from that achieved by Bouché (2017). She states that the negative effect of aspirations on the steady-state capital stock is due to the deterring effect that aspirations play on savings, and hence on capital accumulation. As for Alonso-Carrera and Bouché (2019), they show that agents that are tempted to take the average consumption of individuals living in the same period as their own aspiration or consumption reference may either rise or reduce the accumulation of capital. The key point would be whether consumers take the consumption of the households belonging to the other living generations as a causal factor of their consumption reference.

The economic intuition behind our result is that: individuals increase their first and second consumption possibilities in the pursuit of improved status, which in turn lead to overconsumption. It follows from the life-cycle budget constraint that the maintenance investment reduces. Therefore, the environment degrades as well according to the equation defining the index of environmental quality. To put it differently, individuals drive utility not only from their absolute consumption levels and from environmental quality, but also from the status realized by consuming at above-average levels. Striving for status, therefore, causes higher consumption levels, and thus, the overuse of the environment relative to a social optimum. It is entirely possible then that one of the reasons behind environmental degradation is people over-consume to continuously keep up with the Jones. De la Croix (1996, p. 91) states that "…*aspirations affect savings negatively. When aspirations are low, the adult generation has a sober lifestyle and savings are high. When aspirations are high compared with wage income, adults spend much on consumption to main-*

tain a life standard like the one of their parents and their propensity to save is low."

Numerical Analysis

In this section, the proposition obtained is not general given that its underlying hypotheses include some restrictive functional form assumptions. Thus, the results from the comparative static behavior of the steady state are complemented with some numerical exercises. That is why we choose some parameter values to illustrate visually the effect of the parameters on the steady state equilibrium. We notice in Figure 1, which illustrates the effect of the cohort size L on the aggregate environmental quality $\bar{E}$ for different values of status desire γ, an identical behavior of $\bar{E}$ independently from γ which gradually decreases from $L=2$ and asymptotically approaches a limit value beyond $L=20$ when γ rises. The magnitude of E_t is lower when the parameter γ comes close to unity ($\gamma=0.99$).

Figure 1. L effects on E for different values of γ

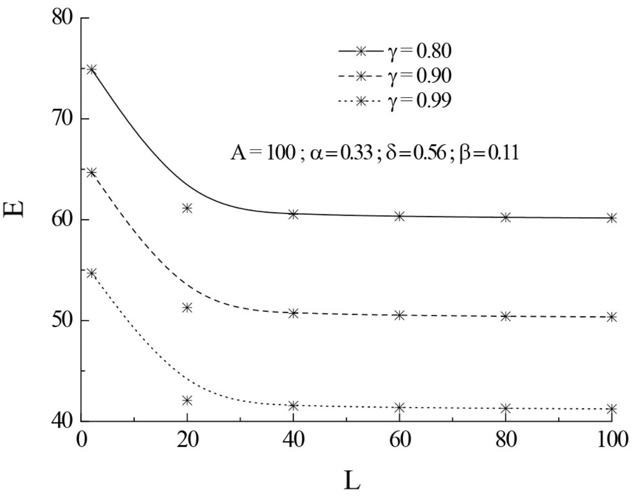
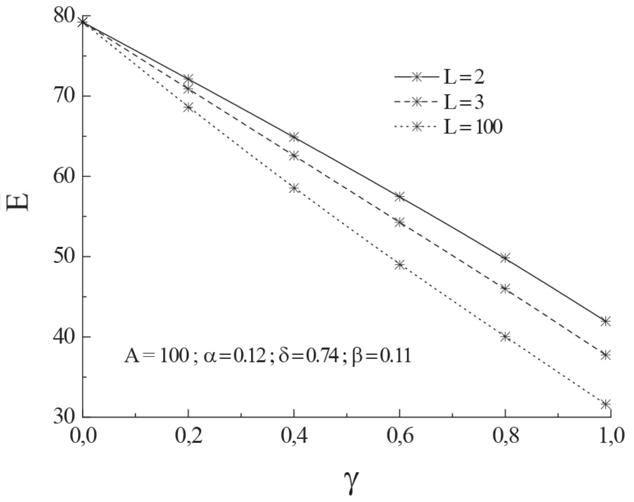


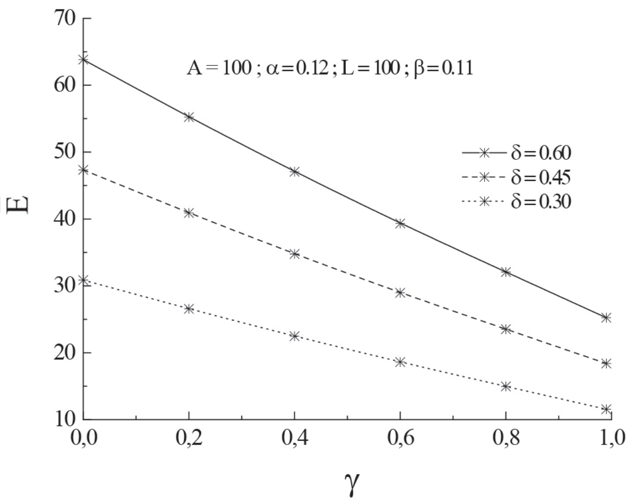
Figure 2(a) shows the evolution of the environmental quality $\bar{E}$ as a function of γ for different values of L. We see that the curves fall off dramatically with increasing γ. This decrease starts from a common value of $\bar{E}$ equal to 79 for $\gamma=0$. When $\gamma>0$, the curves disperse, and the reduction gap becomes more and more important when γ approaches unity. In this situation, $\bar{E}$ is influenced by L and its lowest magnitude of 31.6 is obtained for a large value of L equal to 100. As for the impact of γ on $\bar{E}$ for various values of δ, we find that the economies have lower levels of E_t as γ increases and this environment worsening is more important when $\delta=0.6$. The amplitude of $\bar{E}$ is wider for γ=0 and $\delta=0.6$. Its value is 64. When $\gamma=0$, the difference between

Figure 2. γ effects on E for different values of L(a), δ(b), and β(c)

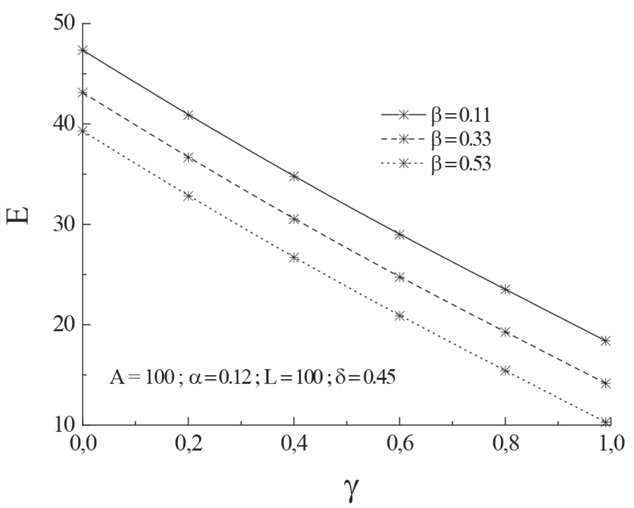
a)



b)



c)



the values of $\bar{E}$ for each δ is 17. When γ increases, this difference tends to decrease and becomes practically the same when γ comes near unity (as shown in Figure 2(b)). Figure 2(c) represents the influence of γ on $\bar{E}$ for different values of β.

We note a similar behavior of $\bar{E}$ which quickly declines with increasing γ. $\bar{E}$ is large for γ=0 and β=0.11. Its value is 47.3. We also remark that for each specific value of γ, the difference between the values of $\bar{E}$ is practically the same. Inversely to the evolution of the environmental quality,an opposite behavior is detected as regards the repercussion of the cohort size on the capital accumulation $\bar{k}$ for different values of status desire. It gradually increases from L=2 and asymptotically approaches saturation beyond L=20. The large effect of $\bar{k}$ at saturation ($\bar{k}$=99) is obtained for γ=0.95 (Figure 3).

Figure 3. L effects on k for different values of γ

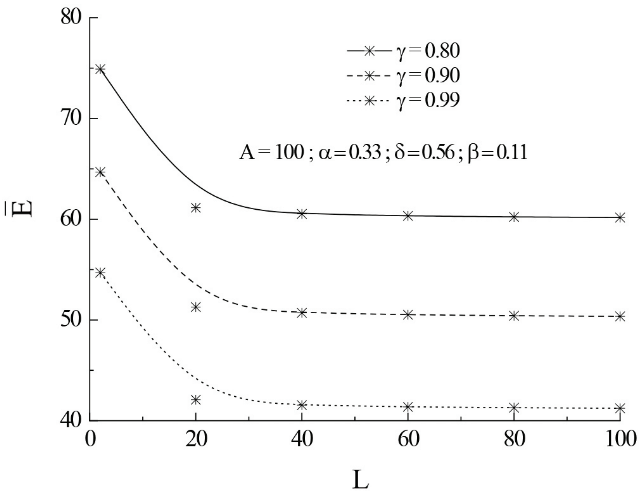
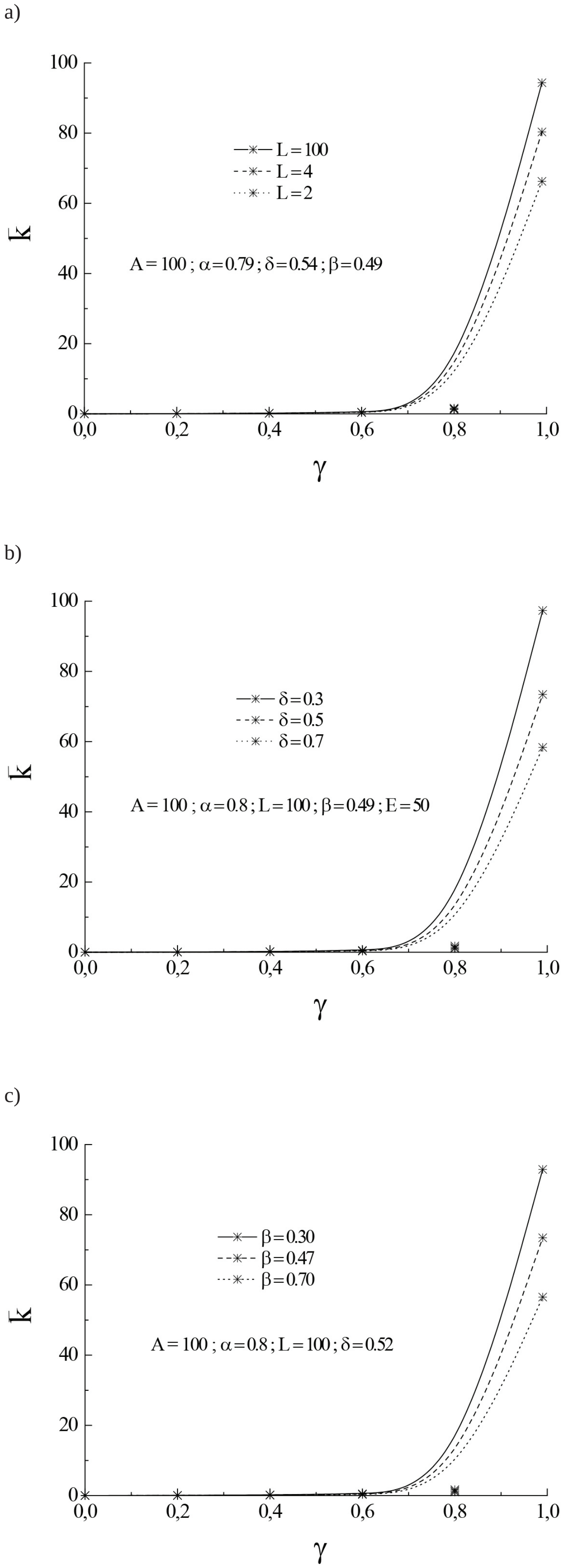


Figure 4 (a), (b) and (c) contain information on how, for different values of L, δ and β respectively, influences $\bar{k}$. We note an identical behavior in the evolutions which indicates the influence of γ beyond 0.8. The curves increase rapidly to reach their maximums when γ tends towards 1. The amplitude of k_t becomes larger and larger by reducing the values of δ and β: $\bar{k}$=93 for β=0.3 and $\bar{k}$=97.4 for δ=0.3; and by increasing the value of L: a large value of L (L=100) gives the largest value of $\bar{k}$ of 94.4 when γ approaches unity.

Figure 4. γ effects on k for different values of L(a), δ(b), and β(c).



Conclusion

Since individuals are finitely lived agents in an OLG economy, their consumption has external environmental costs for other individuals. Furthermore, external habits impacts constitute another externality. We consider an overlapping generations model with external habits in consumption and the presence of environmental quality. We focus particularly on the impact of the desire to "keeping up with the Jones" on the capital and the environmental quality in the laissez-faire equilibrium via a comparative statics' analysis. We concluded that economies characterized by a higher level of status desire accumulate more capital and have lower environmental quality standards than economies with less status desire when the cohort size is large.

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Zunanje oblikovanje navad in okolje

Izvleček

Pričujoči prispevek predstavlja standardni model prekrivajočih se generacij z zunanjim oblikovanjem navad in kakovostjo okolja v funkciji koristnosti. Glavni cilj prispevka je preučiti vpliv zunanje oblikovanih navad na akumulacijo kapitala in vpliv kakovosti okolja na medčasovno konkurenčno ravnovesje. Opazimo, da v primeru velike kohorte težnja po boljšem statusu privede do poslabšanja kakovosti okolja in povečanja kapitala.

Ključne besede: zunanje oblikovane navade, prekrivajoče se generacije, kakovost okolja

Determinants of Dividend Policy: A Case of Serbia's Banking Sector

Biljana Jovković
University of Kragujevac, Faculty of Economics, Republic of Serbia
bjovkovic@kg.ac.rs

Aleksandra S. Vasić
University of Kragujevac, Faculty of Economics, Republic of Serbia
apesterac@kg.ac.rs

Jasmina Bogićević
University of Kragujevac, Faculty of Economics, Republic of Serbia
jasminab@kg.ac.rs

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Abstract

Dividend policy is one of the most controversial areas of corporate finance. The paper presents the results of the research in the banking sector of the Republic of Serbia. The specific characteristics of the financial sector make the research on dividend policy determinants additionally complex. This study aims to determine the factors of dividend policy in the Serbian banking sector in the period 2009–2018. The model of random effects was chosen to test the relationship between dividend determinants and dividend payout. Empirical results show that previous years' dividends have a significant positive effect on dividend policy. Individual investors can benefit from the research to a great extent, as well as bank managers, when creating dividend policies that would contribute to maximising profit and satisfying the needs of employees and shareholders in the long run.

Keywords: corporate finance, banking sector, dividend policy, dividend payout, Serbia

Introduction

Profit as the primary business motive, driving power, and breaking point of various interest groups and is at the centre of the corporate companies' functioning. On the one hand, there are corporate assets entrusted to managers for managing, while on the other hand, there are shareholders that strive to realise the income on the invested capital. The dividend represents the only regulatory channel by which it is possible to transfer corporate assets to shareholders (Malinić, 1999, 226). The set of all dividend decisions is contained in dividend policy. The policy of profit distribution is contained in the dividend policy. Dividend policy is one of the most controversial topics and researched areas of corporate finance.

The profit generated by banks is faced with the challenges of choosing the optimal dividend policy that would reconcile the views on the distribution of disposable

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income to the part retained for reinvestment and the part that goes to shareholders through dividends. Dividend policy in the banking sector was not so often the subject of research in academic literature, as is the case with the companies that belong to some non-financial sectors (Baker et al., 2001; Agyei & Marfo-Yiadom, 2011; Dibia, 2018). The reason for this is the specific financial structure, the presence of stricter and specific regulatory demands, differentiation in the field of managing, etc. (Jabbouri, 2016; Dewasiri et al., 2019).

The main goal of the paper is to investigate the determinants of dividend policy in the banking sector of the Republic of Serbia. This study considers the impact of six variables, namely, profitability, liquidity, leverage, the previous year`s dividend, bank size, and the growth rate of income on interest on the dividend payout ratios. The paper contributes to literature extension, as there are very few papers studying the dividend policies in the financial sector from developing countries. The findings are important for individual investors and bank managers when creating dividend policies that would maximise profit and satisfy employees' and shareholders' needs in the long-term period. Apart from introductory and concluding considerations, the paper is structured into three units. Within the first one, the review of theoretical and empirical literature will be presented. The development of research hypotheses, model description, and defining samples will make the content of the second unit, while the research results will be presented in the last one.

Literature Review

Many dividend theories have tried to explain how the dividend decisions are being taken, the trends in dividend movements, which factors affect them, and the connection of dividend payouts with the market value of companies. The research of Dewasiri & Weerakoon (2016) implies that the study of dividend policy cannot rely only on one theory, but that certain explanations of this subject can be provided only along with the development of a holistic observation model. The primary starting point of the famous Miller & Modigliani (1961) *theory of irrelevancy of dividends* is the presumption of perfect functioning of the capital market, perfect certainty, and rational behaviour. In their paper, the creators of this theory express the attitude according to which dividend policy in the conditions of a perfect capital market is completely irrelevant in terms of its impact on the market value of a company. The absence of dividend payouts proves that shareholders are entirely indifferent between dividends and capital gains. The critics of the Miller & Modigliani theory (1961) imply the groundlessness of assumptions on which the expressed conclusions are based and raise the question of the validity of expressed theses in real market conditions. In the following years, theoretical and empirical literature predominately focused on examining the dividend policy in companies in the conditions of market uncertainty. Free of the assumptions on perfect market functioning, simultaneously recognising market irregularities, Gordon (1963) and Lintner (1962) presented their literature theories popularly called *Bird-in-the-hand Theory*. Starting from the assumption that there is a natural aversion to risk, Gordon (1963) emphasises that the investors (shareholders) prefer relatively certain dividends concerning uncertain capital gains. In the real and imperfect world, investors do not have the same information at their disposal that is available to managers in terms of business risk and business in general. Further theoretical research was aimed at the possibility that the investors are sent certain messages (signals) by the market by carrying out a specific dividend policy. *The theory of dividend signals* connects dividend policy with informational asymmetry (Shchurina & Prunenko, 2018, 992). It starts from the assumption that the dividend payout ratio signals information to investors about the future performance of firms (Al-Kayed, 2017, 119). The growth of dividends directs investors to the conclusion that the management of the company believes that its position is better than the current prices reflect, and that it is realistic to expect that the growth of share prices will follow the growth of dividends.

Significant efforts in academic circles to solve the controversy of dividend policy have resulted in plenty of research in the past few decades. The first in line, Lintner (1956), tried to obtain the answers to the questions related to dividend policy through the research of American companies that belong to the industrial sector. He concluded that the decisions on dividend payouts are based on the current profitability and last year's dividends, which follows the relevance of dividend policy on the value market of companies. After expressing opposite attitudes by Miller & Modigliani (1961) in the theory of irrelevance, a high number of researchers followed in this field. Since the theory of irrelevance was based on the hypotheses that are not characteristic of real business conditions, the critics (Gordon, 1963; Lintner, 1962; Litzenberger & Ramaswamy, 1979) started from modified hypotheses. On the basis of observation of American companies that are listed on the New York stock exchange market, Baker & Powell (1999) came to the findings that dividend payouts are following theories – *Bird-in-the-hand* and *dividend signals*. The justification for the theory of dividend signals is offered by the research results of Arko et al. (2014). Their work is based on consistent evidence that the decisions on dividends are affected by the level of profitability, taxes, investment opportunities, leverage, and risk. In the paper of Yarram & Dollery (2015), the hypothesis on signalisation of dividend payouts was confirmed on the example of Australian companies. The results show that the companies that pay out dividends are bigger on average, more profitable, and more influential, with a lower rate of growth and risk compared to the companies that do not prefer dividend payouts.

In an effort to answer the question about what factors affect dividend policy, a comprehensive piece of research by Jabbouri (2016) that encompassed a ten-year observation of 533 companies listed in the stock markets of Middle Eastern countries was carried out. Banks and financial companies were excluded from the analysis due to their specific financial structure, accounting methods, and corporate management. A positive relation of dividend policy with company size, profitability, and liquidity was spotted, while the growth rate, leverage, and economic development expressed a negative connection with dividend policy. According to what was said, the paper of Dewasiri et al. (2019) confirmed the relation of profitability and growth rate with the policy of dividend payouts. Apart from the mentioned determinants, based on the data of 191 companies that were observed in the period from 2010 to 2016, the authors emphasise that dividend policy is also affected by the previous year's dividends, investment opportunities, corporate management, ownership, and the branch of industry which the company belongs to. Starting from different economic development in which companies operate and comparing dividend policies of the companies of developing countries with the companies in the USA, Aivazian et al. (2003) concluded that national factors affect both the structure of dividend policy and its sensitivity to the effect of different determinants. However, besides the differences, in principle, there is an agreement regarding the effect of profitability and leverage on dividend policy.

Dividend policy is in economic theory most often studied from the aspect of companies that belong to some of the non-financial sectors. As the main reasons for excluding banks and other financial companies from empirical research, Dewasiri et al. (2019) stated high leverage was present at those companies, as well as specific regulatory demands related to their business. Dividend payouts of banks depend greatly on strictly prescribed regulations in this sector, which makes the research of the factors that affect dividend policy become a more complex challenge in relation to the same problems of companies from the industrial sector. Baker et al. (2001) noticed the differentiation in dividend policy attitudes between the managers of financial and non-financial sectors. The results have shown a statistically significant difference in 9 out of 22 separate factors in total, whereby the most important are earning stability, the level of current income, and expected income. Larger dividend payouts weaken financial power and the ability of banks to take on more risk (Basse et al., 2014, 6). This is the main reason why the increase of dividends in the banking sector is not always interpreted as a positive signal to investors.

Specific characteristics of the financial sector have affected the decreased scope of empirical research on key determinants of dividend policy in this field. Analysing financial companies in Ghana, Agyei & Marfo-Yiadom (2011) concluded that profitability, leverage, previous year's dividends, growth, and risk are the main factors that show a statistically significant impact on dividend policy. According to the above, Zameer et al. (2013) revealed a positive connection of profitability and previous year's dividends with dividend policy on the example of the banking sector in Pakistan, which is in the context of the theory of dividend signals. Apart from the aforementioned, the research singled out liquidity and ownership structure as equally influential factors. Dibia (2018) establishes that dividend policy in Nigeria's banking sector is subjected to the impact of profitability, total assets at the disposal of a bank, and the amount of leverage, while the variable of previous dividend payouts has not shown satisfying statistical significance. In a ten-year observation (2005–2015) of banks listed on the Dakar stock market, Hosain (2016) singles out liquidity and leverage as the most important determinants of dividend policy. On the other hand, with determinants like risk, ownership structure, and the amount of total assets at the disposal of a bank, the direct impact has not been noticed. Unlike the previously mentioned research, Basse et al. (2014) discarded the findings of the theory of dividend signals by observing the European banking sector in the period of the financial crisis. This paper has not supported the attitudes according to which dividend reductions are a reliable sign of future problems for investors and financial analysts. On the contrary, it is considered that European banks should turn their policy to the model of dividend reduction to strengthen their financial position in the period of facing a financial crisis.

Methodology of Research

The development of research hypotheses

In the literature review, the key explanations and relations of certain factors to dividend policy were emphasized. The purpose of the research is to establish the critical determinants of dividend policy on the example of banks that operate in the territory of the Republic of Serbia. Banks are the cornerstone of a country's financial system, especially in the emerging market economies where capital markets are underdeveloped (Zhang, Jiang, Qu, & Wang, 2013). The specificity of the financial sector of the Republic of Serbia is reflected in the dominant presence of banks, which makes the area of dividend policy research in this sector attractive. In this paper, *dividend policy*, as a dependent variable, is observed via dividend payout ratio, defined as the ratio between total dividends and net profit. Potential variables whose impact on dividend policy is examined are profitability, liquidity, leverage, previous year's dividend, bank size, and growth rate of income on interest.

The decision on dividend payout in companies starts with the realised profit; hence it is not surprising that *profitability* is considered one of the most critical variables of dividend policy. In his paper, Dibia (2018) finds a positive connection between profitability and dividends. Zameer et al. (2013) emphasise that highly profitable companies distribute a larger share of their profit through dividends. Starting from previous research, the profitability of banks will be measured with the ROA variable (Return on assets). According to everything mentioned previously, the following hypothesis is formed:

H1: Profitability has a statistically significant positive impact on dividend policy.

Liquidity is considered one of the most critical factors of dividend policy. And, while a strand of literature (¬¬Jabbouri, 2016; Hosain, 2016) relates high liquidity to a better financial position that provides the possibility of more significant dividend payouts, others (Banerjee et al., 2005; Dewasiri et al., 2019) find a negative relation between these two variables. Most often, this type of connection is present in the banking sector. Zameer et al. (2013) consider that banks have more significant needs for liquidity compared to the non-financial sector. And, when they mark high liquidity, banks strive to maintain the current level to respond to all challenges readily. Following the research of Marfo-Yiadom & Agyei (2011), liquidity is expressed as the relation between cash and net assets of a bank. According to the aforementioned, we start from the following hypothesis:

H2: Liquidity has a statistically significant negative impact on dividend policy.

The level of indebtedness is one more variable that is related to dividend policy. Increased exposure of a company to risks leads to higher levels of *leverage*. High indebtedness decreases the possibility of sending dividend signals to investors (Jabbouri, 2016, pp. 292). Al-Kayed (2017) emphasises that banks with a high level of leverage are subjected to stricter regulations, which is negatively reflected on dividend payout. As in Hosain's (2016) paper, we express leverage by putting into relation total liability with the total assets of banks. The hypothesis we started from is the following:

H3: Leverage has a statistically significant negative impact on dividend policy.

A high *growth rate of income on interest* represents the signal to investors that a company is in the phase of open investment opportunities, whereby each new investment decreases the amount that remains for the dividend payout. Dewasiri et al. (2019) emphasised that the growth observed through the availability of investments represents an essential determinant of dividend payout. Al-Kayed (2017) finds negative relation between these two variables. The growth rate will be followed through the growth of income on interest, as in the paper of Marfo-Yiadom & Agyei (2011). According to the arguments presented, the following hypothesis is formed:

H4: Growth rate has a statistically significant negative impact on dividend policy.

Lintner (1956) singled out *previous dividends* as one of the determinants of dividend policy. The results of Dickens et al. (2002) emphasise dividends from previous years as the critical factor in determining dividend policy in the banking sector. The amount of last-year dividend payouts defined in a national currency as an absolute number is used for expressing the variable of previous dividends. Based on the research of Al-Kayed (2017) and Dewasiri et al. (2019), the following hypothesis is formed:

H5: Previous year's dividends have a statistically significant positive impact on dividend policy.

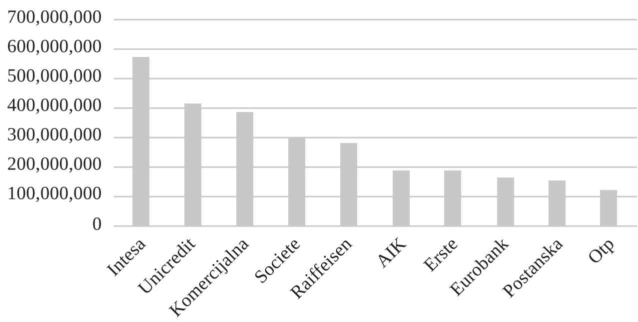
Investors estimate larger companies as less risky, with a better financial market position, easier approach to assets, and larger dividend payouts. *Bank size* was singled out as an important factor in determining dividend policy in the research of ¬¬Jabbouri (2016). The papers of Dickens et al. (2002) and Dibia (2018) also confirm the positive connection of these two variables. For the research of bank size, following the research of Hosain (2016), the natural logarithm of total assets will be used. Based on the aforementioned, we started from the following hypothesis:

H6: Bank size has a statistically significant positive impact on dividend policy.

Empirical model and data

Empirical research is based on the analysis of the panel data series, as the combination of cross-section data and time series (Dragutinovic Mitrovic, 2002, 12). The research focuses on the banking sector of the Republic of Serbia, with 27 banks operating in 2018 (National Bank of Serbia, 2018). Out of the total number, the basis of this research consists of ten banks chosen according to the criteria of total assets at the end of 2018 (Graph 1). Given that the market share of those ten banks was 78.1% at the time, the authors considered it a sufficient choice for the sample. The variables examined in the paper consist of secondary data collected from annual reports of the chosen banks, published decisions on the use and distribution of profit, and the reports published by the National Bank of Serbia. The time span of the research is ten years, from 2009 to 2018.

Figure 1. Total Asset Value (in 1,000s RSD)



Source of data: National Bank of Serbia, 2018.

The application of panel regression requests the choice between the model of fixed effects and the model of random effects. For that purpose, the Hausman test is used in the paper. The Zero hypothesis of this test implies the acceptance of a random effects model, in contrast to the alternative hypothesis that speaks in favour of the fixed effects model (Hosain, 2016, 8). If it is supposed that there is no correlation between a random error and independent variables, the random effects model is more adequate, while otherwise, it is considered that in the assessment of parameters, it is better to use a fixed effect model (Dibia, 2018, 6). In Table 1, the results of the Hausman test were shown. The amount of 7.84 Chi-Square with the probability of 0.2500 implies that the model of random effects is more adequate in the analysis of collected data.

Table 1. Hausman Test

Test summary	Chi. Sq. Stat	***p - value***
	7.840421	0.2500

Unlike the model of fixed effects, random effect model assumes that there is no individual specific effect of companies. However, all factors that affect the dependant variable are unified and contained in random error term. Simply put, the factors that can manifest their impact on a dependent variable, and are not contained in some of the independent variables, are approximately presented by the value of random error. The model of random effects can be presented in the following way:

$$Y_{it} = \beta_0 + \beta_1 X_{1\ it} + \beta_2 X_{2\ it} + \beta_3 X_{3\ it} + \beta_4 X_{4\ it} + \beta_5 X_{5\ it} + \beta_6 X_{6\ it} + \beta_i + \beta_{it}$$

whereby Y represents the dependent variable (dividend payout ratio), X_1, X_2, X_3, X_4, X_5, and X_6 are independent variables (profitability, liquidity, leverage, growth rate of income on interest, previous year's dividends, and bank size). The error term is $\varepsilon_i + \varepsilon_{it}$ and the regression parameter is β. The model is restricts the co-efficient of the explanatory variables to be common across the units (i) and the time period (t). Unlike the basic model, the component of random error ε_i, which is specific for individual observation units, is added to random error ε_{it}, referring to the combination of time series and comparative data.

Table 2 gives a summed review of previously presented variables used in this research.

Table 2. Variables, description and expectation

Variables	Symbol	Description	Expectation
Depended Variable			
Dividend payout ratio	DPR	Cash dividend / Net profit	
Independed Variable			
Profitability	PROF	Return on Asset (ROA)	+
Liquidity	LIQ	Cash and cash equivalent / Net asset	-
Leverage	LEV	Total liability / Total asset	-
Growth rate	GR_R	(Current interest income – Last year interest income) / Last year interest income	+
Previous year`s dividends	PREV_DIV	Last year dividend	+
Bank size	BSZ	Natural logarithm of total asset	+

Testing the set of research hypotheses was carried out with the help of corresponding statistical methods and with the support of the statistical package *EViews*.

Results and Discussion

The collected data will be processed and analysed in four stages. Firstly, the research started from the presentation of dividend policy that chosen banks with headquarters in the Republic of Serbia had pursued in the last ten years. After that, a statistical description of the observed variables in the sample will follow. Then, by applying correlation and regression analysis, the relation and impact of dependent variables on independent ones will be examined within the third and fourth stages.

The overview of dividend policy through the amounts of paid out dividends represents often used and at the same time the simplest form of observing. Table 3 presents the amounts of paid out dividends in the last ten years on the example of the ten biggest banks in the Republic of Serbia.

There are three banks singled out in the table above, which in the observed time interval did not pay out dividends – *Erste* bank, *Eurobank*, and *OTP Group*. The losses from previous years, retained earnings in the company, growth, and development financing are just some of the reasons for the absence of dividend distribution to their shareholders. The continuity in dividend payouts for the observed period was noticed only with *Kombank*. *AIK* and *Raiffeisen* bank are following. Table 3 shows that good results of the first six largest banks for the last two years (2017 and 2018) provided the opportunity of consecutive payout of dividends to

Table 3. Dividend Payout (in 1,000s RSD)

	Intesa	Unicredit	Kombank	Societe	Raiffeisen	AIK	Erste	Eurobank	Postanska	OTP
2009	0	0	44,820	0	0	455,208	0	0	1,967	0
2010	0	0	44,822	0	0	756,762	0	0	1,967	0
2011	0	0	37,575	0	0	149,917	0	0	1,967	0
2012	0	1,135,000	40,264	0	4,936,731	200,000	0	0	7,598	0
2013	0	0	37,351	0	4,657,614	210,000	0	0	0	0
2014	0	0	604,620	0	5,616,555	0	0	0	0	0
2015	0	2,500,000	1,962,751	0	5,227,634	3,120,182	0	0	224,211	0
2016	0	2,600,000	23,531	0	4,341,952	3,377,934	0	0	0	0
2017	18,110,986	1,250,000	16,808	5,748,046	5,411,291	3,743,569	0	0	0	0
2018	20,034,339	1,255,000	2,535,916	4,864,010	6,626,785	10,049,237	0	0	110,100	0

Source of data: National Bank of Serbia, 2018.

Table 4. Descriptive statistics

	Dividend payout ratio	Profitability	Liquidity	Leverage	Growth rate	Previous year`s dividends	Bank size
Mean	0.1779	0.0117	0.6909	0.5179	0.0509	0.1225	18.9634
Median	0	0.0158	0.5876	0.7933	0.0084	0	19.0702
Maximum	1.7808	0.0577	4.2227	0.9119	1.8136	1.5286	20.1683
Minimum	-0.3116	-0.1462	0.0693	-8.1391	-0.2875	-0.3116	17.2772
Standard deviation	0.3901	0.0241	0.5320	1.3126	0.2336	0.3105	0.7094
Skewness	2.3197	-3.6911	3.3311	-5.3774	4.7886	2.5813	-0.6790
Kurtosis	7.8302	22.1889	21.2285	32.533	34.8241	9.0822	2.9304

the shareholders. The most significant benefit in the given period was realised by the shareholders of the bank *Intesa*, whose payouts exceeded the amount of RSD 38 billion in total. At the same time, this represents the most significant amount that any of the observed banks paid out in the ten-year period that was analysed in the paper.

The amounts of paid out dividends in previous years are used to calculate the rate of dividend payout, a dependent variable that serves as a representative of dividend policy in this research. Table 4 shows the descriptive statistics for each of the variables whose impact on dividend policy is being examined along with the dependent one.

By the analysis of arithmetic mean value, standard deviation, asymmetry, and flattening are interpreted as sample characteristics. The average amount of earnings paid out in the form of dividends is 17.79% (Mean = 0.1779). The average rate of income to assets is 1.17%, while the average growth rate is about 5%. The biggest standard deviation from arithmetic mean value is marked with variable Leverage (Std. Dev. = 1.3126). The most significant standard deviation from the arithmetic mean value is marked with variable Leverage (Std. Dev. = 1.3126). The obtained values of distribution asymmetry show both positive and negative asymmetry in relation to the mean value. All flattening results are positive, which implies that the distribution is more peaked than a normal one.

The analysis of the strength and direction of observed variables is performed with the help of correlation analysis. For determining statistical importance, the significance level ά=0.05 was used. The value of the correlation coefficient up to 0.3 implies weak correlation; from 0.3 to 0.5 the mean value, while the values above 0.5 imply a strong correlation connection between variables (Pallant, 2017, 134). The direction of correlation implies positive or negative signs of the correlation coefficient. A positive value implies that with the growth of one variable the grows other as well, and vice versa. On the other hand, negative values represent an inverse movement of variables, with the growth of one comes the reduction of the other, and vice versa. In Table 5, the correlation matrix of all examined variables is given.

The correlation analysis results showed a statistically important correlation between certain pairs of variables with the probability of 95% and 99%. Specifically, in this research, the greatest importance will be to examine the correlation between dividend policy and independent variables. The strongest, statistically significant relation is noticed between the growth of dividend payout ratio and previous year\`s dividends (ρ = 0.663; p = 0.000). In the case of a somewhat weaker relation and the probability of 99%, the positive relation between dividend payout ratio and bank size was observed (ρ = 0.291; p = 0.003). Apart from the aforementioned, the rate of dividend payout is correlated with the profitability of banks as well (ρ = 0.222; p = 0.027). By observing pairs of independent variables, the mean correlation relation was observed between profitability and bank size (ρ = 0.431; p = 0.000). Also, analysis results imply weak, positive relation of bank size and previous year\`s dividends (ρ = 0.233; p = 0.019), as well as between bank size and leverage (ρ = 0.209; p = 0.037).

Table 5. Correlation matrix

	Dividend payout ratio	Leverage	Liquidity	Previous year\`s dividends	Profitability	Growth rate	Bank size
Dividend payout ratio	1						
Leverage	0.0895	1					
Liquidity	0.0397	-0.0103	1				
Previous year\`s dividends	0.6635**	0.0793	0.1049	1			
Profitability	0.2218*	-0.0147	-0.0371	0.1603	1		
Growth rate	-0.1225	0.1547	0.0750	-0.1343	-0.0061	1	
Bank size	0.2906**	0.2089*	0.0763	0.2332*	0.4311**	-0.0675	1

The results significant at 5% significance level are followed by * and at 1% significance level by **.

A regression analysis was applied to determine the association between the explanatory and dependent variables. The testing of the research hypothesis has been done with the help of the random effects model. The obtained results are presented in the Table 6:

The value of determination coefficient R^2 is 0.466, which means that 46% of the variability of dividend policy is explained by the regression model, while the rest of the variability is under the impact of other factors. The Adjusted R square is 0.431. The F statistic value is 13.525 (p-value = 0.000), which at the significance level of 5%, implies that the hypothesis of the existence of significant linear relation between dependent and independent variables is accepted. The values of the Durbin-Watson test of 2.153 imply that there is no autocorrelation.

By observing the values (β coefficient, t value, and *p* statistical significance) given in Table 6 on independent variable Profitability, a positive (β = 1.176), but not a statistically significant impact on the dependent variable can be established (p = 0.396). On that basis, the hypothesis H1 is rejected. The obtained results are consistent with the research of Puspitaningtyas (2019). As expected, Liquidity shows negative, but like in the previous explanation, it is about the value that has no statistically significant impact on dividend payout. The hypothesis H2 is also easily rejected. Leverage and growth rate of income on interest do not show a statistically significant impact on the dependent variable; thus, it comes to the rejection of hypotheses H3 and H4. Zameer et al. (2013) came to similar results in their research when it comes to these two independent variables. Unlike the previously mentioned ones, the variable Previous year's dividends confirms the correctness of the hypothesis H5, according to which last-year dividend payouts have a statistically significant (p = 0.000), positive (β = 0.784) impact on dividend policy. The results speak in favour of using the previous year's dividends as the type of signal of what potential investors can expect in the future. The value of p = 0.000 implies a highly statistically significant relation, which is confirmed in numerous works of research (Hosain, 2016; Al-Kayed, 2017; Dewasiri et al., 2019). When it comes to the last examined determinant, the value of β = 0.061 and p = 0.210 do not show a statistically significant impact of bank size on dividend policy, by which the hypothesis H6 is rejected.

Table 6. Regression results

Depended Variable	***Independed Variable***	***β***	***t - value***	***Sig.***
Dividend payout ratio	Profitability	1.1762	0.8519	0.3965
	Liquidity	-0.0216	-0.3828	0.7027
	Leverage	0.0039	0.1694	0.8658
	Growth rate	-0.0439	-0.3391	0.7353
	Previous year`s dividends	0.7844	7.8784	0.0000**
	Bank size	0.0612	1.2628	0.2098
R square (R2) = 0.4660; F = 13.5246 (p (F statistic) = 0.000); Durbin-Watson stat. = 2.153				
Significance: * *p ≤ 0.05*; ** *p ≤ 0.01*				

Conclusion

As the material basis in which the interest of various groups of corporate companies is being diffracted, the profit has been the subject of studies in economic theories for decades. Researchers' special attention is attracted by dividend policy, especially the one implemented by the companies that belong to the finance sector. This research focuses on determining dividend policy factors of the banking sector in the Republic of Serbia by applying the regression model of random effects. By a choice of six determinants (profitability, liquidity, leverage, growth rate of income on interest, previous year's dividends, and bank size) whose impact on dividend policy was examined in the paper, we concluded that only one of them could explain the movements of dividend payouts. Previous year's dividends have shown as the most significant variable in predicting future dividend payouts. The positive impact of the last-year dividends offers support in defining dividend policy that should rely on previous payout patterns. A statistically significant impact of profitability, leverage, dividend payout rate, and bank size on dividend policy has not been found in the paper.

Deficiencies/limitations of the research. Research limitation refers to the size of the sample. In the observed period, a significant number of observation units were noticed that did not contain dividend payout; hence the recommendation is to expand spatial and time observation of variables to decrease mistakes and increase the correctness of findings.

Practical implications and the directions of future research. Individual investors can benefit from the research to a great extent when choosing the banks whose shares they invest in. If an investor prefers companies that pay out dividends, the first indicator that they observe on that occasion is dividend payouts in previous years. Research results can also help bank management make efficient and reliable decisions on dividend payouts that, in the long-term period, could contribute to maximising profit and satisfying the needs of employees and shareholders. When it comes to future research directions, they should be directed to the inclusion of additional variables into the model, such as ownership, risk, economic conditions, life cycle, investment opportunities, etc. Apart from this, the recommendation for future research refers to the observation of determinants of dividend policy in other finance companies, such as insurance companies.

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Dejavniki dividendne politike: primer bančnega sektorja v Srbiji

Izvleček

Dividendna politika je eno najbolj kontroverznih področij podjetniških financ. Prispevek predstavlja rezultate raziskave bančnega sektorja Republike Srbije. Zaradi specifičnih značilnosti finančnega sektorja je raziskovanje dejavnikov dividendne politike še bolj kompleksno. Cilj te študije je določiti dejavnike dividendne politike v srbskem bančnem sektorju za obdobje 2009-2018. Da bi preverili razmerje med dejavniki in izplačilom dividend, smo izbrali model slučajnih učinkov. Empirični rezultati so pokazali, da imajo dividende preteklih let občuten pozitiven učinek na dividendno politiko. Pričujoča raziskava bi lahko zelo koristila posameznim investitorjem in direktorjem bank pri oblikovanju dividendnih politik, ki bi pripomogle k ustvarjanju čim večjega dobička in zadovoljevanju potreb zaposlenih ter delničarjev na dolgi rok.

Ključne besede: podjetniške finance, bančni sektor, dividendna politika, determinante dividendne politike, Srbija

Managing Crisis Communication Via Social Media

Anja Špoljarić
University of Zagreb, Faculty of Economics and Business, Croatia
aspoljaric@efzg.hr

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Abstract

Social media is becoming omnipresent in everyone's daily life, which is changing the way consumers think, act and buy. Organizations are aware of the possibilities that may occur from developing social media communication strategies, but oftentimes forget to predict and block negative consequences. Information spreadability and bad communication practices are the perfect trigger of a social media crisis, which is why it is crucial for organizations to know what kind of communication, both internal and external, they need to implement. To explore consumers' opinions on social media crisis communication, an online survey was conducted. 125 participants gave their insight into their expectations of the types and tone of social media messages organizations should communicate during a time of crisis. These findings could be used as a guideline for crisis communication planning, considering they examine what types of messages consumers prefer, and which medium of communication they prefer. Even though it is recognized that crisis situations can have a huge impact on an organization's wellbeing, consumers' perspective on crisis communication still has not been researched thoroughly.

Keywords: public relations, crisis situation, social media, crisis communication, consumer perspective on crisis communication

Introduction

As Strandberg and Vigsø (2016, p. 89) said, "every organization will at one time or another face a crisis or a transformation, and therefore needs to be prepared to communicate with both external and internal stakeholders". Thanks to the internet and all the possibilities it offers, especially now that social media is taking over everyday lives with the usage of it being 144 minutes per day (Statista, 2020), crises are more likely to affect organizations negatively.

This is exactly what crises are; sudden events that happen unexpectedly and have a negative effect on organization's integrity and its employees with possible effects on societal wellbeing (Legčević & Taučer, 2014).

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Social media democratizes information and turns content creation into a process among a group of people (Evans, 2009). It is a combination of mobile and web-based technologies that create platforms (which are first and foremost interactive) suitable for content creation, content sharing, and content discussion by each individual (that is interested to do so) or a group (Kietzmann et al., 2011). Companies are now using these new media channels to interact with their consumers and build relationships (Drury, 2008). However, this two-way communication provides interactivity which can affect employee engagement (Crescenzo, 2011), which is why social media has become one of the internal communication channels as well.

Libai et al. (2010) recognize the changes that appeared in customer to customer (C2C) interactions in the last few decades, especially the ones that occur thanks to social media networks. They include a new way of communicating, not only verbally, but also nonverbally, such as expressing consumption related attitudes on social media platforms (Blažević et al., 2013). These changes gave an opportunity for customers to talk to each other and talk back to companies (Deighton & Kornfeld, 2009), but most significantly – an opportunity to offer their own content (Henning-Therau et al., 2010). Blažević et al. (2013) introduced a concept of customer-driven influence (CDI) and defined it as “the impact of customers’ verbal and non-verbal communication on other customers’ attitudes and behaviors” (p. 295).

All these changes are applicable in internal communication as well because social media is a superior channel option compared to previous ones, considering they bring the opportunity to communicate across distance (Young & Hinesly, 2014), offer both verbal and nonverbal communication by allowing an exchange of pictures, videos and other forms of media (Kaplan & Haenlein, 2010), and are easily adjusted to fit the organization’s (or more specifically, a group within an organization’s) needs (Muller et al., 2012).

Social media platforms support idea sharing, information and knowledge distribution, promote innovation and creativity by allowing content creation (Constantinides, 2014). Taking this, as well as the concept of CDI and the fact there are 2.65 billion social media users (Statista, 2018), brings up an issue of adequately managing crisis communication through social media. Crisis can also be an opportunity for an organization, as it offers a chance to develop and improve (if problems and causes are adequately diagnosed), while also allowing a company’s image to strengthen, provided the crisis is dealt with properly (Tkalac Verčič, 2016).

The aim of this study was to determine consumers’ perspective on crisis communication management via social media. Today, it is important to determine what kind of communication is expected of organizations during a crisis, and whether there is a preferred form of it amongst consumers to ensure that consequences of a crisis are reduced as much as possible. Therefore, the purpose of this study was to give an indication on what crisis communication via social media should look like, and how it should be managed.

Literature Review

Crisis communication management

One part of crisis management is crisis communication in all its forms (Tomić & Milas, 2006). “When crisis communication is ineffective, so is the crisis management effort” (Coombs, 2014, x). Fearn-Banks (2007) describes crisis communication as “the dialogue between the organization and its public(s) prior to, during, and after the negative occurrence” (p. 2), which can hurt the organization’s image. The main goal of crisis communication is to reduce or eliminate the negative effects a crisis situation can cause. To prevent crisis communication from being ineffective, and simultaneously crisis management, it is crucial to manage crisis communication.

Bernstein (2016) offers ten steps to crisis communication management and divides them into pre- and post-crisis actions. Pre-crisis actions include anticipating the crisis, followed by identifying a crisis communications team, identifying, and training a spokesperson, establishing notification, and monitoring systems, identifying, and knowing organization’s stakeholders and developing preliminary messages. It is clear that effective crisis communication management depends on preparation. When a crisis develops, there is not enough time to be proactive (Tkalac Verčič, 2016), which leaves insufficient time to carry out all the necessary steps from the beginning.

Social media crisis communication

Considering that prompt and honest communication increases consumers’ trust in an organization and its actions (Tkalac Verčič, 2016), social media is a more than acceptable channel to communicate through as well (Jahn & Hong, 2017). Social media, and any other interactive communication media/tool, offers both one-way and two-way communication during a crisis, which is something organizations try to combine to maximize the outcomes (Taylor

& Perry, 2005). New media forms are especially effective during initial crisis events (Thelwall & Stuart, 2007) because sometimes, but notably in the beginning, the public perceives lower levels of crisis if exposed to social media communication than traditional communication via mass media, such as newspapers (Sweetser & Metzgar, 2007).

Researchers (Searles & Weinberger, 2000; Kelleher, 2009; Jahng & Hong, 2017) recognized that social media communication has a human (more personal) or corporate (more impersonal) voice which have a different effect on communication success, including in the time of a crisis. The research questions, based on these findings, for this study, were as follows:

RQ1 – What kind of communication do consumers active on social media expect from an organization when a crisis occurs?
RQ1a – Do consumers active on social media prefer a specific (social) media channel when it comes to crisis communication?
RQ1b – Do consumers active on social media prefer a specific tone to crisis communication messages that are shared via social media channels?

Method

Research design

Research ideas and survey questions were based on Jahng and Hong's 2017 research of "the role of human voice over corporate voice (…) on the public evaluation of corporate crisis communication on Twitter" (p. 147). The survey conducted for this research was an online survey made in *Google Forms*, shared on author's social media accounts (*Facebook, Instagram, Twitter*) to reach social media users. A survey link was shared in several different posts that included the author's *Facebook status*, regular *Instagram* posts, and *Instagram* stories and *tweets*. The link was also shared in the author's *Instagram bio*. Data for this research was collected in 2018 and analyzed in IBM SPSS Statistics, version 25.

The survey consisted of four different parts. The first part was designed to collect demographics on each participant; their gender, age group, and employment status.

The second part examined participants' social media usage habits. The participants were asked to share which social media they use, how much time they spend using their social media in a day, whether they follow any brands on their social media, and if so, why.

The third part of the survey presented a crisis situation that occurred on social media platforms (specifically, on YouTube). The participants were asked to watch a short video[3] showing a delivery man throwing a package visibly containing a computer monitor over a fence. At some point this video went viral, thanks to social media, and caused a crisis for the delivery service provider. After watching, the participants were asked multiple choice questions, such as predicting their reaction if the video were showing a delivery man from a company they use. An open question to explain their reaction was also posed. Participants were also asked whether they would expect a response from this company, which was a single-answer question and which platforms they would deem suitable to be the company's reaction media, which was a multiple-answer question.

The fourth part of the survey showed a video[4] of crisis communication for the aforementioned crisis situation – a senior vice president of the company gave a minute-and-a-half long speech to acknowledge the situation and apologize. The participants answered questions regarding their perception of this particular crisis communication. They evaluated appropriateness of YouTube as a media channel for this crisis communication, and also gave an overall grade (from 1 to 5, where 1 was the lowest and 5 was the highest grade) of the speech. Next was the participants' assessment of the crisis communication voice on a ten-point Likert scale (where 1 was extremely corporate and 10 was extremely personal). To make a comparison, they also shared, on the same scale, which tone of the message they would prefer. At the end of the survey, the participants decided, on a five-point Likert scale (where 1 was "I completely disagree" and 5 "I completely agree") whether they agree with statements regarding crisis communication from the example but also crisis communication in general.

[3] Goobie55 (2011). FedEx Guy Throwing My Computer Monitor [online]. SAD: YouTube. Available at: https://www.youtube.com/watch?v=PKUDTPbDhnA&feature=youtu.be [27.08.2018.].
[4] Mauricio M. (2013). FedEx Response to Customer Video [online]. SAD: YouTube. Available at: https://www.youtube.com/watch?v=qOhwZHHwWng&feature=youtu.be [27.08.2018.].

Participants' characteristics

A total of 125 participants completed the online survey regarding a certain crisis situation and crisis communication. Sample demographics are presented in Table 1.

Table 1. Sample profiles on key demographic variables (N = 125)

	Frequency	*Percentage*
Gender		
Male	38	30.4%
Female	87	69.6%
Age group		
18-25	77	61.6%
26-30	21	16.8%
31-35	13	10.4%
36-40	12	9.6%
41-45	2	1.6%
Employment status		
Student	70	56.0%
Employed	50	40.0%
Unemployed	5	4.0%

Results

To answer research questions, it was important to determine participants' social media usage habits to see if their answers were relevant. In the survey, they shared which social media platform they use, how much they use it daily, whether they follow any brands on their social media accounts, and why. Their answers are shown in Table 2.

Clearly, participants are avid social media users who also predominantly follow some brands on their social media. This meant they were suitable to rate social media crisis communication seeing as they would, in the situation, be a target group for social media crisis communication.

After seeing a short video showing a situation that later turned into a crisis for a delivery service provider, participants shared their opinions. Their reaction to this kind of situation (if it happened with a delivery service provider that operated in their country), and what they seem to think would be a suitable reaction from the company itself are presented in Table 3.

Table 2. Social media usage habits among participants (N = 125)

	Frequency	*Percentage*
Which SM platforms do participants use?[a]		
Facebook	121	96.8%
YouTube	113	90.4%
Instagram	103	82.4%
LinkedIn	54	43.2%
Google+	26	20.8%
Snapchat	22	17.6%
Twitter	21	16.8%
How many hours a day do participants use their SM?[b]		
Less than an hour	10	8.0%
1 to 2 hours	30	24.0%
2 to 3 hours	33	26.4%
3 to 4 hours	25	20.0%
4 or more hours	27	21.6%
Do participants follow any brands on their SM accounts?		
Yes	104	83.2%
No	21	16.8%
What are participants' reasons to follow brands on their SM?[a]		
To get information about discounts and promotions	77	69.4%
To get information about products and services	75	67.6%
To get timely information about news regarding the brand	52	46.8%
To get information about the brand/organization	22	19.8%
To give feedback	15	13.5%
To connect with other consumers	8	7.2%

Notes: SM = social media.
[a]Multiple-answer question. Participants could choose more than one answer and percentages could sum up to more than 100%.
[b]Upper values not included in the frequency and percentage of each row.

Table 3. Social media crisis perception (N = 125)

	Frequency	*Percentage*
What would be participants' reaction to shown crisis situation?		
Would not continue to use their services	74	59.2%
Continue to use their services, but with extra caution	43	34.4%
Continue to use their services without any hesitation	5	4.0%
Other	3	2.4%
Would participants expect a response to the situation?		
Yes	115	92.0%
No	10	8.0%
Which SM platforms do participants find suitable?[a]		
Social media such as Facebook, Twitter, Instagram	105	84.0%
Official website	104	83.2%
Newsletter	45	36.0%
YouTube	21	16.8%
PR campaign, print media, TV	6	4.8%
All of the above	1	0.8%

Notes: SM = social media.
[a]Multiple-answer question. Participants could choose more than one answer and percentages could sum up to more than 100%.

Most of the participants would cease to use services from the particular delivery service provider. They elaborated their answers, and almost all of them (out of 74 participants who would stop using services) agreed that they would be afraid for their packages. One of them wrote: "If one employee does this, who will guarantee that *my* expensive monitor will be delivered undamaged?" Considering almost 60% of possible service users would never do business with a company due to a video going viral on social media, the impact of (possible or actual) crisis is undeniable.

More than 90% of the participants would expect a response, but mostly on social media excluding YouTube (which is the social media where the crisis occurred) and/or on company's official website. It is curious that not even 20% of participants would expect a response in the form of a YouTube video – perhaps they deem this kind of media too extensive.

After seeing a video showing a response to the aforementioned situation, a video of a senior vice president of the company acknowledging the situation and apologizing for it, participants were asked to rate the specific crisis communication. The overall score, on a scale from 1 to 5 (where 1 was "Extremely bad" and 5 was "Extremely good") for the specific crisis communication, was 3.5. Their opinions on the tone of the message (corporate versus personal) are shown in Table 4.

Clearly, perceived and preferred tone of the message differ by quite a bit. The participants would want a personal message, but the company opted (according to them) for one a bit more corporate in tone. Ideally, the tone would be slightly more personal than corporate (average score = 6.2). But, in reality, it was slightly more corporate (average score = 4.3).

Table 4. Perceived and preferred tone of the crisis communication message (corporate versus personal) (N = 125)

	Perceived tone of voice		*Preferred tone of voice*	
	Frequency	*Percentage*	*Frequency*	*Percentage*
10 (Extremely personal)	2	1.6%	8	6.4%
9 (Really personal)	3	2.4%	9	7.2%
8 (Personal)	4	3.2%	24	19.2%
7 (Slightly personal)	14	11.2%	21	16.8%
6 (Slightly more personal than corporate)	11	8.8%	21	16.8%
5 (Slightly more corporate than personal)	18	14.4%	15	12.0%
4 (Slightly corporate)	23	18.4%	11	8.8%
3 (Corporate)	23	18.4%	5	4.0%
2 (Really corporate)	16	12.8%	5	4.0%
1 (Extremely corporate)	11	8.8%	6	4.8%
Average score	4.3	6.2		

The participants were also asked to determine whether they agree with statements regarding the specific situation and crisis communication they saw, and crisis communication in general. Average scores (on a scale from 1 to 5, where 1 was "Strongly disagree" and 5 was "Strongly agree") are shown in Table 5.

All of the statements regarding the specific crisis situation and communication got an average score between 3.2 and 3.6. The participants obviously are not too satisfied with it, but they are also not dissatisfied. However, some stronger opinions are visible for the statements regarding crisis communication in general. They disagree that organizations should choose only one social media channel to communicate during a crisis, which leads to believe they feel organizations should choose more than one social media channel to communicate during a crisis. The participants also disagree that crisis communication should be corporate, and somewhat agree it should be personal. However, the strongest disagreement is noticeable for the statement "Crisis communication should offer only an apology", while simultaneously, the strongest agreement is noticeable for the statement "Crisis communication should, besides an apology, offer a strategy for future prevention of similar situations". Somewhat similar scores to these were given by the participants to the statements "Organizations should communicate at all times during a crisis", which they agree with, and "Organizations should wait until the crisis is over to communicate", which they disagree with.

Discussion

The main aim of this paper was to determine whether there is a certain type of social media crisis communication consumers prefer. The survey conducted examined consumers' perception of a specific crisis situation and crisis communication that occurred via social media channels. It also provided an insight into what crisis communication should be like in general. In short, this specific crisis situation could be considered a major one – more than half of the consumers would cease to use services from a service provider that is unable to provide adequate service. Participants are not very fond of this specific example of crisis communication, but at the same time, they are not dissatisfied. One of the main improvements they would appreciate is a change in the tone of voice which should have been more personal. They would also want crisis communication to take place via a range of social media channels (they would prefer Facebook, Twitter and Instagram over YouTube) and via the official company website. However, they are satisfied with the content of crisis communication message.

Schultz, Utz and Göritz (2011) showed that the choice of a medium is more important than the message itself. This means it is more important where an organization communicates during a crisis rather than what exactly the message

Table 5. Average scores regarding a specific crisis communication event and crisis communication in general (N = 125)

Statements regarding specific crisis situation and communication	***Average score***
Delivery service provider chose an adequate media channel for their response.	3.2
Video of apology wasn't too long.	3.6
Video content was appropriate.	3.6
The way delivery service provider is talking to their consumers in the video was appropriate.	3.3
Everything that needed to be said was said.	3.6
The tone of the message should have been more personal.	3.5
Statements regarding crisis communication in general	***Average score***
Organizations should in all situations communicate with their consumers via social media.	3.4
Organizations should choose only one social media channel to communicate during a crisis.	1.9
Crisis communication should be personal.	3.5
Crisis communication should be corporate.	2.5
Crisis communication should offer only an apology.	1.8
Crisis communication should, besides an apology, offer a strategy for future prevention of similar situations.	4.4
Organizations should communicate with their consumers at all times during a crisis.	4.1
Organizations should wait until the crisis is over to communicate with their consumers.	2.2

is. The participants would expect two (types of) channels to be chosen in a particular situation they were shown – social media (such as Facebook, Twitter, Instagram) and official the website. According to Coombs (2007) and Reichart (2003) and taking Schultz, Utz and Göritz's (2011) research into consideration, this is an expectation that should be met. Otherwise, an expectation gap can become problematic, especially reputation-wise. If almost 60% of the participants would be prepared to stop using services from this company, reputation salvaging is crucial to the company's survival.

Even though the exact content of the message may not be the most important, the participants would still want more than just an apology. Sturges (1994) agrees, stating that crisis communication content should be oriented toward instructions. This, of course, includes both an internal public that demands more extensive information (Frandsen & Johansen, 2011), and an external public that needs reassuring (Sturges, 1994). The participants somewhat agree that this crisis communication said everything that needed to be said but would have preferred it be said in a more personal tone of voice – one of the aspects they agree should be changed. Jahng and Hong's (2017) research concluded that a more personal tone of voice in crisis communication is more efficient for consumers that are not familiar with the organization, because it stimulates an emotional connection. On the other hand, consumers who were familiar with the organization prior to the crisis, wish for the communication to be both personal and corporate – the right amount of personal tone reinforces their relationship to the organization, while a corporate tone of voice should be used to deliver facts about the course of action designed to reduce the negative effects. This is the information they need to communicate rationally with other consumers while defending the brand they support. This explains why participants felt communication should have been more personal – they needed to connect emotionally because this delivery service provider does not operate in their country. Therefore, they are not really familiar with the brand and do not use their services, and so there is no reason for them to need rational information they could use for defense.

Social media provides emotional support during a crisis (Liu et al., 2011), which is perhaps why participants feel organizations should choose more than one social media platform for crisis communication. Relationships formed on social media go beyond organization-consumer ones and continue on to form consumer to consumer bonds, and sometimes even end up in creating groups of consumers, creating a virtual community (Gupta & Kim, 2004).

One of the most crucial aspects of crisis communication is coherence between activities, where one of the major problems is linking internal and external communication efforts (Heide & Simonsson, 2014; Frandsen & Johansen, 2011). For crisis communication to be seen as a management task, it should be carried out on different levels – societal level, organizational level and level of messages (Thiessen & Ingenhoff, 2011). The biggest part of an organizational level is internal (crisis) communication management, which can also be seen externally. Consumers agree with Bernstein (2016) that communication should occur prior to, during, and post crisis, a task that, according to his crisis management steps, has to be managed internally to be visible externally.

Social media has changed the way consumers communicate, which ultimately changed the way organizations communicate, and finally, operate. Even though social media offers an abundance of opportunities for organizations, such as customer relationship management, evolution in business models, internal communication management and so on (Constantinides, 2014), it is not free of risk. Not only has social media become a channel for corporate communication, but it has also become a form of media that connects consumers. Consumers are now able to influence each other's opinions and behavior and social media communication (Blažević et al., 2013). If not managed properly, it can provoke negative attitudes towards specific organizations. When a crisis occurs in the age of social media, it has a greater reach than it used to have, but so does social media crisis communication. It is a risk, as much as an opportunity (Tkalac Verčič, 2016).

To minimize the risk, crisis communication needs to be managed. Social media requires a special approach, which means there also needs to be social media crisis communication management. If done properly, it can even improve an organization's reputation (Coombs, 2007). Crisis communication management includes preparation prior to the crisis itself (Bernstein, 2016). It also includes proper internal crisis communication, because employees are the best advocates, and when they know what is going on, they are more motivated to solve the problem (Frandsen & Johansen, 2011). Once the internal public (which includes all employee groups, investors, board of directors and more) are aware and informed, the external public should be too. Perhaps there are not enough information at the beginning, but any information is better than none. Crisis communication should be an integrated process that offers brief acknowledgment of the situation at the beginning – something social media channels are excellent for, but also an extensive course of action that is developed in order to minimize negative effects – type of information that should be shared via many different channels. Those first messages should be reassuring and personal, but the more extensive ones require a more professional tone of voice.

Customers also want to be informed after the situation settles down and business returns to a new normal state. Crisis communication management is a course of action prior to, during, and post crisis situation. It combines both internal and external activities, and social media, when properly managed, is a great channel to help reduce negative impacts (Gilpin, 2018).

Limitations and Future Studies

The research conducted relied on survey responses from social media users. However, the sample of participants is not completely representative due to their demographic profiles. This is one of the biggest limitations, because almost 70% of the participants were women, 60% of participants were students under the age of 26, which is not completely representative considering that around 30% of social media users are between the age of 16 and 24, and around 30% of social media users are the age of 25 and 34 (Statista, 2020).

The survey conducted was an online survey, and there was no means to explain any possible vagueness within questions. Also, though anonymous, participants may have not been completely honest due to fear of being judged. Survey questions in this form have not been used before. Therefore, this method has not been validated. The company that was used as an example does not operate in the country where the study was conducted. This opens a possibility that participants were not able to fully connect with the situation and communication that was presented to them.

Future studies should ensure an example of a real-life crisis that occurred in participants' surroundings, and also conduct research within the company itself in order to determine a course of action for crisis communication management. Also, similar research should be conducted with a more representative sample, to include more participants from all generations active on social media.

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Vodenje kriznega komuniciranja preko družbenih medijev

Izvleček

Družbeni mediji postajajo vseprisotni v vsakodnevnem življenju vseh ljudi, s čimer spreminjajo način, kako potrošniki razmišljajo, ravnajo in kupujejo. Organizacije se zavedajo možnosti, ki jih nudi razvoj strategij komunikacije na družbenih medijih, vendar pogosto pozabijo napovedati in preprečiti negativne posledice. Širjenje informacij in slabe komunikacijske prakse so idealni sprožilec krize na družbenih medijih, zaradi česar je ključno, da organizacije vedo, katero vrsto komunikacije, tako interne kot eksterne, morajo uporabljati. Da bi raziskali mnenja potrošnikov o kriznem komuniciranju preko družbenih medijev, smo izvedli anketo s 125 anketiranci, ki so nudili vpogled v svoja pričakovanja glede vrst in tonov sporočil na družbenih medijih, ki naj bi jih objavljale organizacije v času krize. Ugotovitve ankete bi lahko služile kot smernice za načrtovanje kriznega komuniciranja, saj je bilo raziskano, katere vrste sporočil imajo potrošniki najraje in preko katerih komunikacijskih sredstev jih najraje prejemajo. Čeprav je znano, da imajo krizne situacije lahko ogromen vpliv na dobrobit organizacije, mnenje potrošnikov o kriznem komuniciranju še vedno ni bilo temeljito raziskano.

Ključne besede: odnosi z javnostmi, krizna situacija, družbeni mediji, krizno komuniciranje, mnenje potrošnikov o kriznem komuniciranju

Logo Shape and Color as Drivers of Change in Brand Evaluation and Recognition

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Matia Torbarina
University of Rijeka, Faculty of Economics and Business, Croatia
matia.torbarina@efri.hr

Nina Grgurić Čop
University of Rijeka, Faculty of Economics and Business, Croatia
nina.grguric.cop@efri.hr

Lara Jelenc
University of Rijeka, Faculty of Economics and Business, Croatia
lara.jelenc@efri.hr

Abstract

The purpose of the present study was to test whether logo shape and color affect emotional and cognitive response to a new logo. In the explorative part of the study, the effect of the amount of each of the additive primary color on logo perception was examined. Research was done on a sample of 190 students whose ratings were used as logo description measures. Two independent variables used in the study were logo shape (abstract vs. concrete) and logo color (original color vs. greyscale). Results showed that greyscale logos and logos that are concrete were recognized more accurately while liking was not related to either independent variable. It was also observed that the amount of red color in logo is negatively (correlated/related), and blue and green color are positively related to both logo recognition and logo liking. Practitioners are advised to note that factors affecting consumers' cognition and emotion are different. Scientists can extend findings on the effect of amount of individual colors in a logo. This is one of the first works of research that examined the effect of logo color on brand recognition and has approached studying color in this way of averaging amount of each of the additive primary colors. External validity of the research is enhanced by testing the younger generation in their natural habitat of mobile phone environment.

Keywords: corporate logo, brand awareness, logo likability, logo color, logo shape

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Introduction

Brand logo is considered to be one of the most salient and important parts of corporate visual identity (Adir et al., 2012), which can lead to consumers' affective reactions before carrying out any promotional activity (Bresciani & Del Ponte, 2017). For it to be effective and appealing, logo creation is usually entrusted to specialized designers. The problem with this kind of logo creation is that specialized designers rarely do any impression-creation research, and even if they do, it is questionable how prone they would be to share their results with their colleagues and scientific community since their work is commercial and not free (Colman, 1995). Few designers that are willing to share their logo creation process state that it all starts from a pool of shapes from which they select those that elicit positive affect and meaning (Henderson & Cote, 1998). This conflict between the designers and scientists is still present and is rooted in the basic epistemology; designers are focused on creation while scientists aim for discovery (Peralta & Moultrie, 2010). Others have noted practitioners rarely use conceptual tools which are recommended by academics (Boiling et al., 2017). Greater blame has been assigned to scientists for their lack of accurate and easily understandable communication (Cheng & Rolandi, 2015; Khoury et al., 2019).

The logo design and selection process can be expensive due to the numerous tasks and employees that need to be engaged. For example, initial design and (re)placing the logo on everything from business cards to signage on buildings (Pimentel, 1997; as cited in Henderson & Cote, 1998) are only a few activities that add to the total costs of this action. On the other side, the primary goal of advertising, especially in the early stages of a brand/product introduction, is to build brand awareness, or getting the consumers to be able to recall or recognize a brand (Business Dictionary, n. d). Due to the rapid growth of new brands, over 40 million brands are registered all over the world (WIPO, 2019), and brand awareness became even more important for leaving a distinctive footprint in consumers' minds. To help brands understand how to achieve better recognition in a cluttered digital environment, researchers need to understand why some brands are more recognizable than others. On top of that, the positive effect of logo perception on customers' commitment and consequentially on firm performance is not derived from merely being able to identify the brand, but also by offering aesthetic appeal (Park et al., 2013): to build a strong customer mindset brand equity (Ye & Van Raaij, 2004), another element needs to be considered - brand liking.

Despite the obvious link with brand awareness and the fact that a likable logo can mean future budget-saving for a company, not much research attention has been devoted to investigating which corporate logo characteristics affect perception of firms' visual identity. For instance, there are guidelines for selecting and modifying logos (Henderson & Cote, 1998). But they were broadly stated without describing which specific logo features lead to higher recognition. That is why in their later work they called for more research on both logo color and shape as predictors of branding outcomes (Henderson et al., 2003). The research on logo recognition took various turns since, from estimating its alignment with company's mission (Hynes, 2008) to doing research on an existing logo, such as Apple's logo (Blake, 2015). Recent studies have tried to explain how logos are recognized in social network images. Wang et al. (2014) acknowledged the importance of logo recognition (Mehta & Purvis, 2006) and explained how consumers react to changes in design of existing logos (Machado et al. 2012, Machado et al., 2015). However, none focused on how specific logo features can enhance likability and recognition in the future. One of the design features that is often featured in studies is the color (Dowling, 1994). But researchers mostly focused on the appropriateness of color (Bottomley & Doyle, 2016) or its meaning (Hynes, 2008). More recent studies have focused on specific niche-like fashion blogs (Ridgway & Beth Myers, 2013) with findings that cannot be generalized to all the logo research.

In contrast to previous research, present research aims to offer more general information on how these logo features impact brand awareness determinants (brand recognition) and likability by discerning logo color and shape from other brand cues. Importance of recognition as a brand awareness measure is emphasized by researchers' efforts to devise a technique based on feature binding to enhance logo recognition (Romberg & Lienhart, 2013).

The present paper's purpose is contribution to the nascent literature on logo characteristics and its effect on important marketing outcomes such as brand awareness in the digital environment. It will be done through examination of how specific brand logo characteristics affect its likeability (i. e. elicits emotional response) and recognizability (i. e. cognitive response) in a crowded, digital environment. Although like previous research on logo design, the present study differs in a couple of ways. First, the research design includes color, shape, recognition, and likeability of the logo. Second, the authors are not aware of any previous research that empirically tested for the relationship between color and recognizability. Third, contrary to existing research on color, the authors of this study propose a more objective way of measuring color in each logo – as an average amount of additive primary colors used on television and computer screens (red, green, blue). Finally, the study's design enhances the external validity of the observed results by placing the research in the environment in which respondents are most familiar with - their smartphones.

The following section will describe key concepts used in the research. Methodology and results sections are followed by a discussion of the most important results together with implications and research limitations.

Theoretical Background and Hypotheses Development

Corporate logo as a key corporate brand likability and awareness determinant

The definition of brand awareness mentioned in the introduction makes a clear distinction between recollection and recognition, which is in line with how other authors (Belch & Belch, 2018) view indicators of brand awareness: unaided recall and aided brand recall. Original brand awareness definition states that it is a reflection of presence of the brand in the mind of consumers which plays a key role in determining brand equity (Aaker, 1998). This definition, and especially the way in which it is measured, is grounded in the Atkinson-Shiffrin model of memory (Atkinson & Shiffrin, 1968). According to this model, recognition represents perceiving something as previously known (Mandler, 1980) and is considered to be an easier task than recollection. Experiments conducted in 1968 by Atkinson and Shiffrin showed that subjects who were not able to recall an answer but were able to choose the correct answer among a set of alternatives, showed a high level of accuracy in recognition. That is why examining the antecedents that drive and increase logo recognizability is an important issue in branding and advertising.

Regardless of the cultural aspect, when a firm finds itself in the low-investment setting, one of the few cues that can differentiate them is the affect attached to a logo (Machado et al., 2015). Research on known corporate logos showed that the congruency of design elements (i.e. both brand components were evaluated similarly in terms of shape symbolism) was more frequently related to emotional engagement and consequently to positive emotions (Salgado-Montejo et al., 2014). Corporate visual identity positively affects, through logo design, a firm's visibility, distinctiveness, authenticity, transparency, and consistency (Van den Bosch et al., 2005). Being well-aware the "*quality of design*" would be nearly impossible to examine in a single piece of research. This research builds upon the existing research on logo color and shape in trying to provide a deeper understanding on some missing or still ambiguous effects logo design has on brand likability and recognizability.

Brand liking and recognizability are determinants of consumer mind brand equity (Ye & Van Raaij, 2004). Brand awareness of a corporate brand is a dominant choice heuristic among subjects, emphasizing that building brand awareness was an important strategy for advertising if brands want to increase probability to be chosen (Hoyer & Brown, 1990). Due to the corporate brand logo's effect on brand awareness through eliciting favorable, unique associations (Girard et al., 2013; van Grinsven & Das, 2016), examination of the prerequisites and consequences of a likable logo is of great academic and practical importance. The environment is quickly changing and brands are adjusting their business to millennials who show different behavior patterns than previous generations (Črešnar & Jevšenak, 2019). Younger consumers spend most of their time online (Emarketer, 2019) which leads to attentional saturation. This difficulty in memorizing most of the things they are exposed to became an important determinant of young generations (Blake et al., 2015). Importance of favorable logo (i.e. one with likable corporate name, shape and typeface) perception on corporate image, recognizability, familiarity and reputation was observed by Foroudi et al. (2014). In the present study, a closer look is given to how likability and recognizability can be affected by two corporate logo design components – color and shape.

Logo color and likability

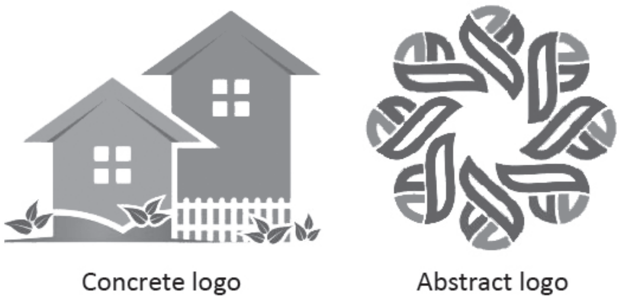
Many promotional channels and forms of communication are perceived as either a signal or noise to different consumers (Belch & Belch, 2018). For this reason, it is important to get the most out of every logo-consumer contact, and the first step towards this goal is having a corporate logo that people like. The simplest form of differentiation when it comes to studying color is grayscale vs original color. In their guidelines for logo creation, Henderson and Cote (1998) emphasized preliminary evidence suggests that color greatly affects the perception of design. Color also plays a big role in driving brand personality (Labrecque & Milne, 2012; Ridgway & Myers, 2014) and signalizes affiliation to the specific industry sector (O'Connor, 2011), making it easier to position a brand in a complex macro environment and consumers' minds. But, when studying color in marketing, researchers mostly focused on its appropriateness rather than likability: an appropriately chosen color for a corporate logo can bring inherent and immediate value to a brand (Bottomley & Doyle, 2006; Hynes, 2009). There was, however, exploratory research done on the effect logo color has on likability (Labrecque & Milne, 2012). Results suggested that addition of a color enhanced logo likability. Despite its valuable findings in directing the role of color in branding, it was done using existing corporate brands' logos, which have their own, pre-existing brand likability and consumers' experiences with brands. To extrapolate the effect color plays in logo likability by using unknown logos, we propose the following:

H1: Colored logos will be liked more than grayscale ones.

Logo shape and likability

Logos shapes have been at the focus of numerous studies for many years now (e.g. Henderson & Cote, 1998; Bottomley & Doyle, 2006). They observed that concrete, figurative, or natural shapes are those that resemble real-life objects - something people are usually exposed to (such as letters or objects). Abstract shapes, on the other hand, do not resemble anything people usually see. An example of concrete and abstract logos used in the present research is shown in Figure 1.

Figure 1. Examples of abstract and concrete logos used in the study



Source: Behance, n.d.

By using stimulus codability, a term used in psychology to describe notions of consensus in meaning, Henderson & Cote (1998) explained concrete logos that are easily codable, as they remind people of something they have already seen and thus are perceived, interpreted, and retained. Theoretical assumptions stating that that circular shapes activate softness associations and angular shapes activate hardness associations motivated research by Henderson & Cote (1998) and Jiang et al. (2016). Both papers showed that shape, as the sole feature of the logo, is powerful enough to affect perceptions of a company's attributes. But there was not much data on whether respondents liked what they had seen. Nevertheless, their conclusions were the steppingstones for further development of research on logo characteristics that need to be emphasized to elicit positive outcomes.

Research on the relationship between logo shape and likeability showed that a logo's sense of nature influences consumers' affective response to the logo (César Machado et al., 2012); the change in the roundedness of a previously angular logo affects brand attitude negatively, but only for strongly committed consumers, whereas weakly committed consumers will react positively to such changes (Walsh et al., 2010; Walsh et al., 2011). These effects are similar across cultures. Surveys conducted in three different countries (Pittard et al., 2007) showed universal preference for divine proportion across cultures, and the biggest effect was observed for logos resembling forms found in nature. Based on these findings, the following hypotheses are proposed:

H2: Concrete logos will be liked more than abstract ones.

Logo color and recognizability

Despite color being a hypothesized predictor of many outcomes in marketing literature (eg. Singh, 2006), few, if any, studies have tested its relationship with an important indicator of brand awareness, logo recognition. There are, however, indications that logo color can affect its recognizability. Logo identification is significantly faster for logos presented in color, as opposed to achromatic logos (Tanaka & Presnell, 1999). Recognition performance increased significantly when face images were presented in color rather than in greyscale (Yip & Sinha, 2002). The same effect was observed for images of scenery (Wichmann et al., 2002). Finally, color, in general, improves recognition of presented images (Wurm et al., 1993).

H3: Colored logos will be correctly recognized more frequently than grayscale ones.

Logo shape and recognizability

It has been shown that naturalistic logos (i.e. logos that are formed of recognizable everyday figures) are recognized more correctly than abstract logos (Henderson & Cote, 1998; Machado et al., 2015). Recognition occurs on two levels: consumers should remember seeing the logo, which is called "correct recognition" and then they should be able to recreate the brand name, "recall phase" (Henderson & Cote, 1998). Eliciting consumers' sense of recognition without heavy exposure is becoming imperative (Henderson & Cote, 1998), especially in the low investment setting that is now more common than ever with start-ups gaining in popularity. Recognition was facilitated by brand name being depicted pictorially, rather than in plain text (MacInnis & Jaworski, 1989). Marketers in both western and eastern cultures report a need to select logo designs that are "elaborate, natural, and harmonious" if they want to be recognized correctly, suggesting recognition overcomes national borders (Henderson et al., 2003). Children also showed higher recognition for logos to which they were more frequently exposed to (Arredondo et al., 2009), meaning they perceive them as being concrete rather than abstract. Brand recognition was also found to be dependent on the number of exposures. Increase in exposure leads to an increase in brand recognition, especially for complex brand logos, thus suggesting short-term benefits for simple brand logos, and long-term benefits for complex logos (van Grinsven & Das, 2016). Previous research on logo shape and recognition also used existing, well-known logos as stimuli in the study (Machado et al., 2015). By conceptually replicating previous studies with images of unknown logos, authors are extending findings of the previous research. A hypothesis on shape as a driver of brand recognition follows:

H4: Concrete logos will be correctly recognized more frequently than abstract ones.

Examining a relationship between the average amount of the additive primary colors and its effect on brand likability and recognition – exploratory study

The digital environment is where most consumer-brand encounters take place (Emarketer, 2019). On television and computer screens, the additive primary colors used to project images are red, green and blue (so called RGB model). That means each color displayed on screen is a combination of these three colors. Marketing literature has often gained valuable insights from color studies (Singh, 2006). As for these three colors, it is now known that retail stores need to be blue rather than red (Bellizzi & Hite's, 1992), as blue is perceived as sincere, dependable, and trustworthy (Jacobs et al., 1991) while red is paired with love and adventure (Jacobs et al., 1991). Blue and green are more positively evaluated than red, although red is perceived to be the most active color (Adams & Osgood, 1973). Generally, preference for color suggests blue and green are most preferable, while red and yellow are the least preferable colors (Whitfield & Wiltshire, 1990). However, as no previous research on color used in logo design operationalized colors as a combination of additive primary colors, this part of the research is explorative, focusing on the following research question:

RQ1: *How does the amount of each of the primary colors affect logo liking and recognition?*

Methodology of Research

Sample

The study was done in the spring of 2019, on a convenience sample of 190 participants with mean age 19.66 years (sdage = 1.46 years), 26% were male. The sample frame consisted of 307 students enrolled in the first year of their undergraduate studies at the Faculty of Economics and Business making the response rate 61%. A student population was used for a couple of reasons. First, reports show that students, particularly those between the ages of 18-24, represent an important marketing segment for retailers and brands to communicate about new products/promotions (Emarketer, 2019). Secondly, studies show that smartphones are the most commonly used devices for this cohort (Biloš et al., 2017), meaning that it represents externally the most valid environment for this population. One half of the sample (N = 94 students) was exposed to logos in grayscale while the other half was exposed to logos in their original color.

Stimuli and procedure

Stimuli used in the study consisted of images of unknown logos. The reason the authors opted for the unknown logos was to control the brand familiarity, as suggested by previous research on logo design (e.g. Bresciani & Del Ponte, 2017; Machado et al., 2015). Unknown logos may lead to affective reactions and meaning consensus simply due to the design of the logo rather than any prior experience participants have with it. All logos were sampled from the webpage (Behance, n.d.). Two templates were downloaded, each containing 28 different logos. Four from the first template and six from the second were discarded based on their size. By eliminating them from the analyses, size of the logo was effectively controlled for. Each logo had the same size of 297x230 pixels. The shape and color were similar for both the logos that were rated and those that were used as distractors. Thus, the observed difference could have arisen solely from the fact that one set had been seen while the other had not. A pre-test was done on a sample of 16 students whose task was to indicate whether they had seen each of the target logos used in the research, without participating in the liking phase. They recognized an average of 1.56 logos (SD = 1.41) out of 24 that were presented, which serves as a successful manipulation check that the logos were, indeed, unknown.

Procedure

The study began at the start of the class which all the students were obligated to attend. The students were instructed to take out their smartphones and to follow the presented link to the Google Forms questionnaire.

The first phase of the study started with a presentation of 24 logos, the order of which was randomized for each participant. Their task was to rate how much they liked each of the presented logos. All logos were presented simultaneously, and students were free to scroll up and down and rate them at their own pace. After they had rated the logos, the lecture was resumed as usual. Lecture content was not related to research in any way and logos were not mentioned during the lecture.

Approximately 90 minutes later, at the end of the class, students were asked to follow another Google link to another questionnaire. Unlike the first part of the study, their task in this phase was to indicate which of the 46 (24 original + 22 distractor) logos they had seen. The total time needed for completion of the study was approximately five minutes.

Measures

Authors manipulated two explanatory variables, logo color and logo shape. Logo color, a between-subjects factor, was presented in either the original color or grayscale, while logo shape, within-subjects factor was presented as logo being either concrete or abstract in its' shape. A logo's shape was determined based on an inspection, which was performed by two authors. Inter-rater reliability, expressed as Cohen's kappa, was calculated to be 0,91, which falls into the category of "almost perfect agreement" (Landis & Koch, 1972). Authors concluded that eight of the logos can be categorized as being "concrete", and 16 can be categorized as "abstract" logos.

Key outcome measures were averaged for each logo. These measures consisted of participants' liking of each logo, their recognition of a logo, and the correlation between liking and recognition for each factor. Liking was measured on a 5-point scale where higher numbers indicate higher liking. Logo recognition was measured as a binary variable with values of 0 (not recognized) and 1 (correctly recognized). Correlation between recognition and liking for each factor represents how they are related to each other, or in other words, how much variance they share among themselves.

Additionally, the average amount of the additive primary colors, red, green and blue, was calculated for each colored logo. O'Connor (2011) suggests using these three colors for several reasons. First, they can be easily assessed with computer software which makes it easy to translate their values into any color. Furthermore, the RGB (red, green, blue) system offers an opportunity to be reproduced across several computer programs such as Word, Excel, and Powerpoint. Finally, color data can be easily arranged and grouped, which enables the identification of similar patterns. These colors represent popular primaries for additive color mixing used in LCD screens, for example (http://rit-mcsl.org/fairchild/WhyIsColor/shortAs.html). Amount of color was measured on 0-255 which corresponds to a scale commonly used by Microsoft programs for color customization. Average amount was calculated by breaking down the logo image into pixels using the "imager" package (Barthelme, 2019). Each logo had approximately 60.000 pixels. The amount of the color in each of them was averaged across all pixels, which resulted in a single estimation of the average amount of red, green, and blue color in each of them. White pixels (all three colors at their maximum) were excluded from the analysis since they represent the logo background and not the logo itself.

Results

All analyses were down within the R statistical environment (R Core Team, 2016). Visualizations were created using the "ggplot2" package (Wickham, 2016) and the amount of color in each logo was calculated with the help of "imager" (Barthelme, 2019). Code necessary for analysis reproduction can be found in the Open Science Framework repository (https://osf.io/g9qwj) along with the database and stimuli used following open data suggestions by Houtkoop et al. (2018).

A description of the used measures for each level of explanatory variables is presented in Table 1.

H1 and H2 were tested with a two-way mixed design analysis of variance. Results are presented in Table 2. Rating of a logo liking is independent of both the shape and color ($F_{2,45}$ = 0.71; p>0.05). Conversely, recognition differs based on logo characteristics and the way in which it is presented ($F_{2,45}$ = 17.34; p<0.01).

Table 1. Descriptive statistics

		n	M	SD
Abstract	Correlation of liking and recognition	32	0.01	0.13
	Liking	32	2.88	0.49
	Recognition	32	0.62	0.13
	Recognition variability	32	0.47	0.06
Concrete	Correlation of liking and recognition	16	0.08	0.12
	Liking	16	3.01	0.49
	Recognition	16	0.69	0.12
	Recognition variability	16	0.45	0.06
Colored	Correlation of liking and recognition	24	-0.03	0.10
	Liking	24	2.98	0.47
	Recognition	24	0.57	0.07
	Recognition variability	24	0.49	0.01
Greyscale	Correlation of liking and recognition	24	0.09	0.13
	Liking	24	2.86	0.51
	Recognition	24	0.72	0.13
	Recognition variability	24	0.43	0.08

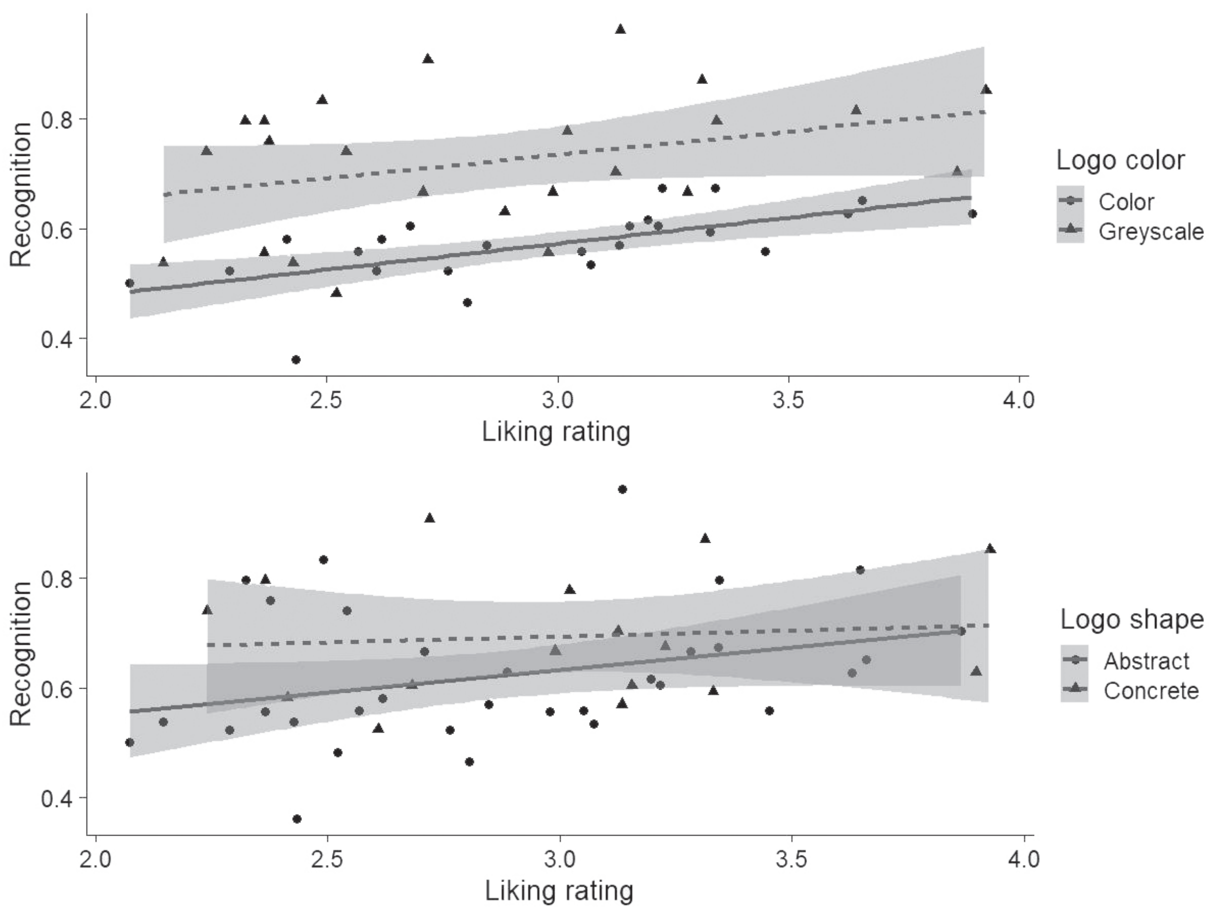
Logos that were more accurately recognized as already seen were concrete and presented in greyscale. The unstandardized difference in recognition between colored and greyscale logos equals b = 0.15 (p<0.01). In other words, 15% more logos were accurately recognized when presented in greyscale than in their original colors. The effect is somewhat smaller for the level of abstraction (b = 0.07; p<0.05). Concrete logos are recognized more accurately than abstract logos. Results are graphically presented in the Figure 2.

Table 2. Linear regression coefficients

		R	R2	Beta	p
Liking	Abstractness	0.173205	0.03	0.13	>0.05
	Color			-0.12	>.,05
Recog-nition	Abstractness	0.663325	0.44	-0.26	<0.05
	Color			-0.6	<0.01

Finally, exploratory analysis, in which the effect of particular color was examined on liking and recognition, showed that logos with more red color in them are both less liked (r = -0.46) and less recognized (r = -0.17). The effect is opposite for blue and green, which showed a positive correlation with both liking and recognition. It is worth mentioning that due to the exploratory nature of the study and small sample size (only 24 colored logos were analyzed), the sign of the relationship was of greater importance than the statistical significance, although all the relationships were statistically significant, except for the relationship between recognition and the amount of red and blue in a logo. Table 3 contains descriptive statistics and correlation between the amount of a certain color and ratings of liking and recognition.

Figure 2. Relationship between logo liking and logo recognition based on logo color and shape



Note: shaded area indicates 95% CI.

Each logo contains similar amounts of all three colors, with blue being a bit less used. It is important to mention that different combinations of these three colors result in a variety of colors. However, given that these results are among the first to examine color in this numerical way, they can serve as an initial step for future research. Results are graphically presented in Figure 3.

Table 3. Descriptive statistics of the color variables

	M	SD	Red	Green	Blue
Red	162.4	49.41			
Green	155.35	30.04			
Blue	132.88	37.17			
Liking	-	-	-0.46*	0.60**	0.52**
Recog-nition	-	-	-0.17	0.60**	0.38

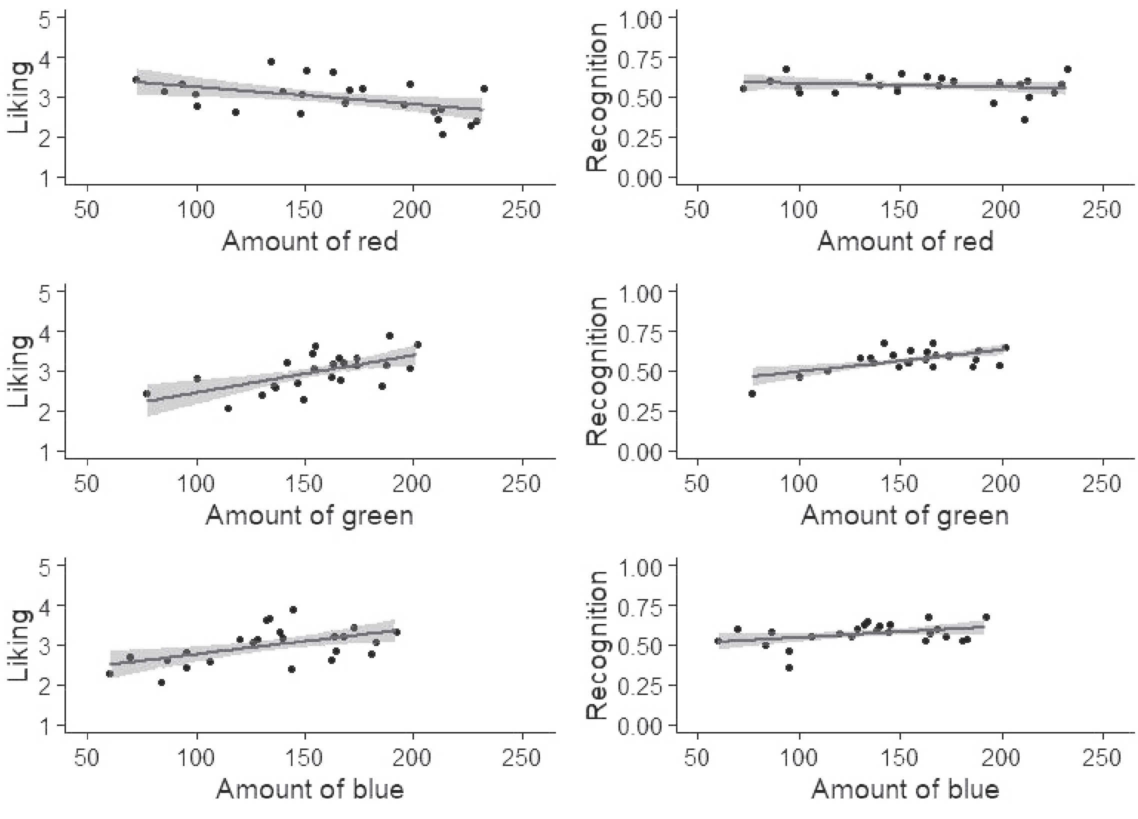
Notes: significance p<0.05, p<0.01***

In summary, apart from the H4 (concrete logos will be recognized more accurately), none of the hypotheses were confirmed. Neither the logo's color nor shape affect likeability or recognition. As for the effect of the amount of individual color in a logo, the amount of blue and green in a logo was seen as positive, while the amount of red showed a negative relationship with both recognition and likeability. Discussion of the results and their implications are presented in the following sections.

Discussion

Most of the findings of the present study are in contradiction with the previous research (Labrecque & Milne, 2012; Pittard et al., 2007; Wichman et al., 2002). Part of the reason for this contradiction may be accounted for by the differences in the study's design where the present study was run in different context (smartphones), on different samples (students), using rather similar, unknown logos as the

Figure 3. Relationship between amount of primary colors (red, green and blue) in a colored logo and logo liking/recognition.



Note: shaded area indicates 95% CI.

target stimuli. However, it is important to highlight the fact that previous research has failed to reach an agreement on the logo design effects on important marketing outcomes such as brand awareness. The present study does not deviate from previous ones, but simply extends what is known in the field of brand awareness.

Results of the present research contribute to brand advertising literature in three important ways. First, it is shown that the logo design affects brand awareness. This finding is in line with previous studies on logo design (Henderson & Cote, 1998; Machado et al., 2015). Logos resembling real life objects were recognized more accurately than abstract logos. Secondly, color showed no effect on either of the brand awareness indicators, contrary to previous research (Labrecque & Milne, 2012). In fact, logo liking is not influenced by either the shape or color of the logo. Greyscale logos were recognized more accurately than colored logos. Most of the research on logo design was done at least a decade ago (MacInnis & Jaworski, 1989; Colman, 1995; Henderson and Cote, 1998; Bottomley and Doyle, 2006; Arredondo et al., 2009; Jun et al., 2008; Hynes, 2009). Perhaps this newly observed attentional saturation of the younger consumers, which makes them more prone to remembering stimuli containing fewer pieces of information (Blake et al., 2015), had lead them to better memorizing of lower-information stimuli (greyscale logos) than higher-information stimuli (colored logos).

Finally, as opposed to previous research focused on color, such as finding the right match of colors' properties to different product properties - functionality (Bottomley & Doyle, 2006), color warmth (Hynes, 2009) or personality dimensions (Labrecque & Milne, 2012), – this work of research offers an important contribution by showing the effect of the amount of a certain, specific color in colored logos.

Although previous research has shown that logo liking can be predicted based on choosing the right color (Bottomley & Doyle, 2006), complexity and number of exposures (Miceli et al., 2014), the present results have shown that likeability of the logo is "in the eye of beholder" and not engraved into the logo itself. Authors could not establish what is important for a logo to be perceived as likable, but probable properties can be found in the literature on aesthetics. For example, research on beauty perception showed that people like symmetry since from an evolutionary perspective, it indicates healthy genes (Buss, 2014). The logo symmetry was not measured in this study, but further research that will build upon the present one should incorporate this measure also to test whether it can be observed in other contexts.

Finding that logos when presented in greyscale were recognized more accurately can be explained by the total amount of information a consumer has to remember about the logo. Research on memory (Atkinson & Shiffrin, 1968) has shown that the total amount of bits of information one has to remember is negatively related to the accuracy of recognition and recollection. Due to the fact that logos were not tainted with any prior knowledge or experiences by participants, it is therefore improbable that consumers would have something prior to build upon this new information (Bresciani & Del Ponte, 2017; Machado et al., 2015).

Finally, the negative effect of the amount of red in a logo and lower liking/recognition can be used as a steppingstone for future research. It has been repeatedly shown that consumers positively perceive red color as a color of excitement (Labrecque & Milne, 2012) and warmth (Hynes, 2009). These findings have been abused by marketing experts who are using it more than other colors in their logos. This behavior increases different logo's saturation with the red color leading to lower liking and lower recognition, possibly due to the inability to distinguish between different logos. Authors are hypothesizing that the positive relationship between blue/green color and liking/recognition can be explained with the same mechanism.

Implications

We highlight the importance of both brand recognition and brand liking as preconditions for building positive brand outcomes, in the environment that is becoming more and more cluttered. Color has been gaining much attention in advertising and brand literature (Watson et al., 2010; Wedel & Pieters, 2015), but here, it was shown to be weakly connected with likability, although there was previous research suggesting it. The present paper contributes to the logo design research by limiting the role of color in driving positive brand outcomes. This research clearly shows the need to depart from focusing on color as an independent variable to make a broader approach that considers shape, and more specifically concreteness. It also suggests a new approach to operationalizing color in future research as the average of additive primary colors if research is done using any sort of screen.

The digital environment has faced consumers with many visual stimuli that they need to somehow sort and process, and it is inevitable some of these stimuli are going to be ignored. That is why professionals should engage more resources when deciding on the shape itself if they want their logo to be recognized and liked among their rivals, and not focus solely on logo color (especially red) and expect to stand out based on it. This does not mean they need to ignore colors they use, but quite the opposite – they should use them more carefully. Results of this study suggest they should be more careful when using large amounts of red, and that they should favor green and blue to elicit more favorable outcomes.

Limitations and further research

A couple of limitations should be emphasized. Not all students successfully completed both phases of the study due to various reasons that could potentially affect observed results. However, because their ratings were summarized for each logo, this should not affect results in a significant way. Secondly, images used in the study represented logo templates. The reason for this decision was to be certain that participants had not had the chance to experience these logos. For future research, authors should consider using real-life brand logos that are not familiar to their participants. Finally, the color in each logo was not varied, but each logo was presented in its original color or as a greyscale. Future research should take this into account and vary the amount of color for each logo individually to corroborate the exploratory phase of the present study. The fact that authors provided both the logo images and logo description should elicit future research on the topic, since future research can directly compare their interventions for each of the logos. Besides that, no research on color can resist the burden that cultural context carries (Madden et al., 2000), and it would be interesting to see how similar research would turn out in other cultural contexts.

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Oblika in barva logotipa kot gonili sprememb pri vrednotenju in prepoznavnosti znamke

Izvleček

Namen pričujoče študije je bil preveriti, če oblika in barva logotipa vplivata na čustveni in kognitivni odziv na nov logotip. V raziskovalnem delu študije smo preučili vpliv količine posamezne primarne barve na dojemanje logotipa. Raziskava je bila izvedena na vzorcu 190 študentov, čigar ocene so bile uporabljene kot merila za opis logotipa. V študiji sta bili uporabljeni dve neodvisni spremenljivki, tj. oblika logotipa (abstraktna proti konkretni) in barva logotipa (izvirna barva proti sivinskim odtenkom). Rezultati so pokazali, da so logotipe v sivinskih odtenkih in logotipe konkretnih oblik bolje prepoznavali, medtem ko priljubljenost logotipa ni bila povezana z nobeno neodvisno spremenljivko. Opazili smo tudi, da je količina rdeče barve v logotipu negativno povezana, količina modre in zelene barve pa pozitivno povezana s prepoznavnostjo in priljubljenostjo logotipa. Izvajalci naj upoštevajo, da se dejavniki, ki vplivajo na kognitivni in čustveni odziv potrošnikov razlikujejo. Znanstveniki bi lahko razširili ugotovitve te študije glede vpliva količine posamezne barve v logotipu. To je ena prvih raziskav, ki je preučila vpliv barve logotipa na prepoznavnost znamke. Barvo je raziskovala s pomočjo porazdelitve količine posamezne primarne barve. Raziskava je pridobila zunanjo veljavnost s pomočjo testiranja mlajše generacije v njenem značilnem okolju mobilnih telefonov.

Ključne besede: logotip podjetja, prepoznavnost znamke, priljubljenost logotipa, barva logotipa, oblika logotipa

Shopping Center Industry Internationalization with a Focus on Key Resources and Direct Investment: The Case of a Chilean Company in Mexico

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Humberto Riquelme
Regional Leader of Payments and Vendor Processes at Parque Arauco, Cerro Colorado 5240, Torre del Parque 1, Piso 15, Las Condes, Santiago de Chile
humberto.erm@gmail.com

Vito Bobek
University of Maribor, Faculty of Economics and Business, Slovenia and University of Applied Sciences FH Joanneum, Graz, Austria
vito.bobek@um.si, vito.bobek@fh-joanneum.at

Tatjana Horvat
University of Primorska, Faculty of Management, Koper, Slovenia
tatjana.horvat@fm-kp.si

Abstract

The shopping center sector has been growing steadily over the last years in Latin America. Many countries such as Chile, Mexico, and Brazil lead the industry in the region, with so many projects still under development and different companies with international expansion perspectives in their portfolio. The purpose of this paper is to identify which are the most recommendable entry mode strategies for Latin American countries and which are the essential resources and capabilities that a shopping center company needs to develop to increase the likelihood of success in the sector. Thus, different factors, such as political, economic, and social factors, which impact the industry operation, are analyzed to create a high-level overview of this industry's most important subjects. For this purpose, primary and secondary data are used, based on a literature review and an empirical qualitative study, giving information of the Chilean Commercial Real Estate company, and interviewing its top managers. Thereby, the results lead to an entry strategy proposal into the Mexican market, identifying the most important shopping centers in the country, the main actors, and the best opportunities to enter.

Keywords: shopping center sector, resources and capabilities, entry strategies, emerging markets, Chile, Mexico

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Introduction

Emerging economies have been the focus of international investors in recent years. One of the most exciting sectors in emerging markets is the shopping center industry. A shopping center is a specially built area containing one or several buildings, usually of considerable size, that houses services, shops, and commercial offices gathered in a given space that concentrates potentially more clients. The method of ownership varies from individual owners to multiple ones. The business model is based on the rental of the commercial spaces, where the tenant must pay for the rental and maintenance services to the shopping center (Shopping Center Business, 2020).

The shopping centers in Latin America have grown 5% annually between 2008 and 2018 (Lizan, 2018). Mexico tops the list of countries with a significant number of shopping centers, followed by Brazil. The spread of these businesses follows the increase of foreign direct investment to Latin American countries, the rise of GDP per capita, and the increase of income in the middle class.

Most shopping center industry related data focuses on the United States, Europe, or Asia (mainly China and India). Little of the data is focused on Latin American countries, where the growth opportunities are still worth further examination (ECLAC 2011, 8).

It is difficult for foreign investors to choose an emerging market that meets the necessary conditions to make investments without risks. Most emerging countries display conditions of corruption, political uncertainty, bureaucracy, and social instability that are difficult (but not impossible) to face (Shumetie & Watabaji 2019, 8).

This research questions of this paper are:

1. Which are the key resources and capabilities to increase the shopping center sector's success rate in Latin America?

- Assumption 1: Regional partnerships and policies
- Assumption 2: Experienced managers and teams
- Assumption 3: Innovation oriented policies

2. Which are the most recommendable entry strategies in the shopping center sector for Latin American countries?

- Assumption 1: Using a local partner
- Assumption 2: Using a direct entry investment

Consequently, this paper aims to understand and describe the key resources and capabilities that a shopping center company needs to develop to increase the likelihood of success in business ventures in emerging economies in Latin America. Another objective is to understand the most recommendable strategies for entering Latin American economies in the shopping center sector. The authors want to show relevant information for foreign investors looking for investment opportunities in emerging markets, and, for managers who are reluctant to expand abroad and/or find insights into their internationalization process. In addition to a critical reflection of important influences, this research gives an overview of different motivations and approaches of shopping center chains entering the Mexican market and insight into the Mexican business environment. Based on the experiences of a Chilean company, the paper provides recommendations for possible foreign market entries. A strategy is developed by analyzing the Chilean company X's previous experience entering other Latin American countries such as Perú and Colombia. The paper concludes with the required resources for international expansion and a proposal of an entry strategy into Mexico, according to an analysis of its economic, political, and social factors.

The paper begins with the literature review to deliver a precise observation of resources and capabilities, entry mode strategies, the shopping center industry, the analyzed company, and the Chilean business environment. Then, empirical research follows with a qualitative research approach which has been selected due to its ability to provide a deep insight into research. The empirical analysis is followed by a discussion where the analysis outcomes are dealt with. The conclusion summarizes the findings and explains the limitations of the study.

Methodology and Data

To answer the research questions, a qualitative approach was applied using primary research data. This qualitative approach was executed through interviews with experts (i.e., relevant managers in company X (10 persons)). Those interviews were conducted in a face-to-face conversation or, if not possible, via an online interview. These conversations were recorded to present the results and be analyzed according to the Mayring (2015) method. There were also secondary research data taking place to support more information about the research. The collection of information was executed through books, specialized magazines, private organizations, and government entities and associations.

The qualitative research approach was selected due to its ability to provide deep insight into the area of research. Moreover, this type of investigation involves verbalizing data for observing and interpreting them individually. This makes the process flexible and open for interpretation. Instead of a quantitative presentation of numbers, qualitative studies seek to articulate data by observing and interpreting it on an individual basis (Ebster & Stalzer, 2008, pp. 139-140). To analyze the conducted expert interviews, the qualitative content analysis of Mayring (2015) has been identified as the appropriate tool.

Literature Review

The quantity of theory and research regarding the Latin American shopping center industry is very scarce. This is because most of the studies are made focusing on developed market areas, such as the United States, Europe, and China. In this framework, the study is based on understanding the main topics of the Latin American shopping centers contexts. These contexts include resources and capabilities, shopping center industry, the analyzed company, and Economic and Shopping Center context of Mexico.

Resources and capabilities

The business strategy perspective tells us that resources and capabilities are the sources of a company's internal strengths and weaknesses. Exploiting that the firms' unique R & C is a strong basis for profitability, growth, value creation, and other aspects that may determine a competitive success (Tallman, 2010).

Other authors (Dakare et al. 2019; Ferreira & Fernandes 2017; López-Cabarcos et al. 2015) define ‘resources and capabilities’ as a basis for achieving competitive advantage and superior performance. Resources are the assets that organizations have or can call upon, while capabilities are how those assets are used or deployed. A shorthand way of thinking of this is that resources are "what we have", and capabilities are "what we do well" (Johnson et al., 2016, pp. 98-107). In this research, the authors have analyzed the following resources: physical, financial, and human resources.

Since one of the primary purposes of having essential resources and capabilities is to achieve a competitive advantage, it is possible to define this as a differential characteristic of a company that makes it stand out from the competition and place itself in a superior position compared to the rest, to obtain higher performance. The competitive advantage must be unique in its sector, appreciated by the consumer or end customer, and capable of being maintained over time. The companies can use any of the three generic competitive strategies (Cepyme News, 2020).

The concept of generic strategies is based on the fact that competitive advantage is the essence of any strategy, and that a decision is essential to achieve it. Thus, if the company wants to achieve a competitive advantage, it must choose the type it wants to obtain and the area in which it will do so. "Making everyone happy" is considered a symbol of strategic weakness and below-market performance, as” making everyone happy” quite often means that there is absolutely no competitive advantage. The generic strategies below will be detailed (Porter, 2015): cost leadership, differentiation, focus, concentration, or specialization.

Gottschalk (2005, 50-52) states that standard strategic management models traditionally develop the firm’s strategy according to its product and market positioning (the products they manufacture and the markets they work in). However, there is another critical approach to consider - the resource-based strategy. This approach states that a company should position itself based on its unique, valuable, and inimitable resources and capabilities rather than its products and services. Leveraging R&C across many markets and products, rather than targeting certain specific products for certain markets, becomes the strategic driver. Therefore, the resource-based strategy provides a longer-term insight than the traditional ones, and one more robust in uncertain and dynamic competitive environments.

The strategic resources and capabilities that make a company successful have to be unique or rare for seeking a competitive advantage and value creation. Like everything in a business environment, R&C does not last forever. They do not have a permanent condition (resources decay, capabilities decline, competitors will adapt to the market and find new sources of potentially more advantage). Thus, it is a clear and relevant activity to exploit the resources and capabilities the company already owns and controls. Not all complex capabilities are necessarily easy to understand or pin down, but the firms could still understand how their specific skills work. Resources and capabilities are only valuable if they can allow the company to create, make, or do something that allows them to create value for the customers (Tallman, 2010).

Entry mode strategies

Selecting an entry strategy will depend on various factors, such as the promise and size of the market, the business environment, managerial understanding of the market, internationalization objectives, fitting among product and market, the level of asset commitment for targeting a market, and finally the nature/level of competition (Cavusgil et al., 2012, 3-25, 84-104).

Having a strategy means that the company also has clarity about its objectives or wants to go to a particular market or country. Firms typically seek one of the following objectives while investing abroad: 1. Market seeking, where a firm is attracted to a market due to its size and potential; 2. Efficiency seeking, in which a firm wants to enter a new market due that the market has exceptional capabilities in a particular industry; 3. Resource seeking, in which a firm invests in a country to obtain access to a crucial resource (Buckley & Ghauri, 1999, 361-381).

A Multinational Enterprise (MNE) looking to enter a foreign market has to make relevant strategic decisions regarding which entry mode strategy to use. The Entry Modes are specific forms of entering a new country to accomplish planned goals underlying international presence (Luo, 2002, 198-208).

The selection of potential markets to enter depends on external factors, since it is essential to consider internal ones and the company's cultural orientation. This orientation has a significant influence on a company's international operations, such as recruitment and deployment of employees, managers, and strategy formulation (Gekonge, 2013, 167-170).

Shopping center industry

In the last decade, the economy's globalization process has substantially impacted the internal territorial reorganization of metropolises that are shaping a "transnational urban system." One of the consequences of this process is the redefinition of urban centers around consumption, particularly to cultural consumption, leisure activities, and luxury trade, in response to the emerging demand from concentrated social sectors. The internationalization and modernization of commerce involve the diffusion of identical products and brands and the arising of a business sector of standardized places such as shopping centers. In Latin America, the shopping centers have been perceived as an urban symbol of the city's changes (Caprón, 1997).

According to the Spanish Association of Shopping Centers, shopping centers are defined as a set of independent commercial establishments, planned, and developed by one or more entities, with unity criteria. Their size, commercial mix, shared services, and complementary activities are related to their environment, which permanently has a unified image and management (Asociación Española de Centros Comerciales, 2020).

As we know it today, the shopping center was initially conceived by the architect Victor Gruen, which was determined by the European covered and pedestrian passages. Victor Gruen wanted to materialize a space that fulfilled a sociability function similar to that of urban centers with shopping streets. In the beginning, the shopping malls were designed as a space for consumption and recreation, a place for social life where the public could walk and relax (Lipovestdky, 2014).

The profitability and business model of shopping centers is achieved by renting the gross leasable area at the highest possible price. In addition to the income derived from the rental of commercial premises, the owners of shopping centers obtain additional income through the rental of common areas and the rental of billboards that are usually located outside the building where the shopping mall is located. The rental of common areas can be an essential source of income due to the stands seen in the corridors. The shopping center owners charge rent for the square meters they leisure for installing the children's attraction, the ice cream stand, watch or jewelry stores, to give some examples. Therefore, the method to procure income can be classified as (RB, 2017): business premises leases, rental of common areas, and billboards rental.

For having a prominent, prosperous, and strong shopping center business, there are different factors and parameters to keep in mind, all of which can involve the following (Dirigentes Digital Magazine, 2020): location, access, commercial mix, anchor stores, and facilities.

Some authors (Martin Gonzalez, 2009) also indicate the influence relevant to the shopping center’s architecture on the consumer, summoning the “Gruen Effect" concept. Victor Gruen knew the influence that architecture had on psychology since one of his hobbies was to study the secrets of the symbolism of the great cathedrals.

Company X

Company X is a public limited company based in Chile. It quotes its shares in the Chilean stock market, forming part of the Selective Price Index of Shares, S&P IPSA. It measures variations of prices of the 30 most liquid companies on the Santiago Stock Exchange and on the General Stock Price Index, S&P IGPA, which measures the performance of the shares domiciled in Chile and listed on the Santiago Stock Exchange and that have a stock market presence equal to or greater than 25% and which, also, meet other minimum liquidity criteria (Company X, 2019).

Company X develops and manages multi-format real estate assets, mainly for commercial use, oriented towards different socio-economic sectors in Chile, Peru, and Colombia. The company considered four shopping center types: regional, neighborhood, outlet malls, and strip malls. The tenants (clients) are department stores, home improvement stores, supermarkets, restaurants, cinemas, health centers, and smaller stores of different items (Company X, 2020). They study the cities of the countries where they are present and search for the best locations in each city. Once the location is chosen, they create tailored business concepts: the right size, the right infrastructure, and the optimal business mix. Finally, when the mall is built and leased to tenants (clients), they seek to continually improve the shopping experience for final consumers (visitors).

Currently, the company is involved in Chile, Perú, and Colombia, working with the following assets and characteristics (Company X, 2019):

Table 1. Assets of company X in Chile, Peru, and Colombia

	CHILE	PERÚ	COLOMBIA
Real estate assets (number of shopping centers)	30	20	4
Total leasable area	515.000 m^2	405.500 m^2	155.000 m^2
Owned leasable area	398.240 m^2	405.500 m^2	136.550 m^2
Average leased occupation	96.1%	95.6%	92.5%
Average age of portfolio*	17 years	Nine years	Six years
Clients (tenants)	1.559	1.508	677
Collaborators	315	147	74

Source: adapted from company X Memoria Annual (2019).
*Note: *average age of all shopping centers owned by company X in the country.*

Economic Context of Mexico

Summarizing Mexico's economic, social, and political context, it is possible to establish that the country is well-positioned in every index among Latin American countries and is always located among the top four (WEF for the years 2015 to 2019). The country also possesses a strong economy, with a GDP that in the next 20-30 (years) is forecasting to be within the top ten economies worldwide Mexico has a current population of 120 million, which will increase around 25% by 2050, and with a high human capital development compared to Latin American countries (KNOEMA 2019). Mexico is an attractive market for global investors, with a capital market full of opportunities to develop.

Mexico also has the second-best infrastructure level in Latin American countries after Chile, with a level of urbanization among the highest globally, and Mexico City among the most populous cities worldwide. Nevertheless, the country is involved in an institutional context surrounded by high political corruption (ECLAC, 2016).

Shopping Center Context of Mexico

Since the 1990s, Mexico has registered an unprecedented boom in (the capture of) real estate investments, including those in commercial megaprojects. The first shopping malls that emerged in Mexico resulted from the association between department stores and national real estate developers (International Council of Shopping Centers (ICSC), 2015).

Alliances between department stores and domestic real estate developers facilitated Plaza Universidad's construction in 1969. It was the first shopping center in the country, resulting from a collaboration between the North American company Sears Roebuck and the real estate firm Sordo Madaleno. A similar operation laid the foundation for the building of Plaza Satélite in 1971, a product of the association of Sears Roebuck department stores, the Port of Liverpool, Paris, and London, also with with Sordo Madaleno (Gasca-Zamora, 2017, 75-84).

These complementarity schemes between commercial and real estate capital have been maintained over time in Mexico. Examples include the construction of the Perisur Shopping Center, Galerías Insurgentes, and Galerías Coapa, in which the El Puerto de Liverpool department store participated. For its part, El Palacio de Hierro participated in the Coyoacán Shopping Center (Gasca-Zamora, 2017, 75-84).

The growth of the Shopping Center sector is part of a new financial regime in the direction of contemporary urban production in Mexico and other Latin American countries, a system characterized by the participation, coalition, and merger of investors, real estate companies, and global and national financial actors, as well as for the diversity of funds and investment instruments managed by companies, including pensions, insurance and hedge funds (De Mattos, 2007).

The decade 2006-2016 witnessed an extraordinary transformation in the way real estate developments are viewed. Now, this industry in Mexico is in maturity, characterized by a boom in infrastructure development and growing national and foreign capital investment. It should be noted that the integration of real estate investment portfolios is a common practice today. Three trends that adequately describe the market are (KPMG, 2016):

1. The emergence of medium and small developers in strategic regions of the country;
2. The increase in mixed-use developments;
3. The rise of financial investment instruments, such as Real Estate Investment Trusts (better known as Fibras) and Development Capital Certificates (CKD).

The trend towards attracting high rents generated by shopping centers has triggered greater participation and competition from global investors for placement in different cities in Mexico, where significant capital flows are required in this segment of shopping centers and others related to the real estate market. Concerning the size of participating global companies, it is estimated that approximately 12 billion dollars was placed in various real estate sectors between 1999 and 2010. It should be noted that 80% of these investments came from the United States and Canada, while the rest of funds came from countries in Asia and the Middle East (Asociación Mexicana de Capital Privado, 2014).

According to UNCTAD's 2020 World Investment Report (UNCTAD, 2020), FDI inflows edged down to USD 33 billion, from USD 35 billion a year earlier (-5%). The total stock of FDI was estimated at USD 628 billion in 2019. Investments mostly come from the United States, Spain, Canada, and Germany. The sectors receiving significant foreign investment were manufacturing (especially the automobile industry), financial and insurance services, retail and wholesale trade, and communication. Foreign investment is mostly concentrated in towns neighboring the US border (where many assembly factories are located) and the capital city. Thanks to its robust tourism industry, the Yucatan Peninsula also receives substantial foreign investment. FDI flows to the country fluctuate enormously depending on the arrival and departure of large international groups.

The different modalities of financing the real estate sector in the construction of shopping centers are channeled through different sources. Since the end of the nineties of the twentieth century and the beginning of the twenty-first, schemes have been identified that include Real Estate Investment Consortiums, mortgage providers, insurers, and various types of private equity funds. These include Kimco, Prei, General Electric Capital, ING, Hines, Black Creek, O'Connor and LaSalle Investment Management, MetLife, and Walton Street. In addition to the participation of these global companies, in more recent years, the financing of the Shopping Centers in Mexico has had a greater dynamism due to the emergence of various modalities of stock market investment, such as Development Capital Certificates (CKD) and Investment Trusts in Real Estate (FIBRAS). Both have contributed new resources to expand the margin for local capital participation from investors of different sizes (Lizan, 2014). In all sectors, Mexican commercial and development banks are taking more active roles in project finance deals, where financing is in pesos, fully funded by Mexican lenders and governed by Mexican law. The banks are more often seen as developers, seeking to decrease the exchange rate and internationally driven risks and to lower transaction costs (Lexology, 2020).

Mexico is a leader in developing shopping centers in Latin America, ahead of countries such as Brazil, Argentina, Colombia, Peru, and Chile. A condition that implies an opportunity for economic development, being a benchmark in the region since out of the 1,800 shopping centers that exist throughout Latin America, 584 are in this country (Forbes, 2015).

For the International Council of Shopping Centers (ICSC), with groups of more than 60,000 members in 80 countries, this trend experienced by the Mexican market is relevant. While Colombia and Peru's potential are experiencing expansion today, Mexico and Brazil are Latin American countries with the most developed shopping center industry and the largest potential for expansion (International Council of Shopping Center, 2020).

In Mexico, the shopping center industry began in the mid-sixties. At the end of the same decade, Mexico and Brazil had a mature sector, with investment opportunities in conurbations and new economic development poles in Brazil's case. Cities such as Monterrey, Guadalajara, Puebla, and the Federal District are already fully saturated with shopping centers. However, other areas in small municipalities and secondary cities still do not offer and present opportunities to develop shopping centers (Olguín, 2019).

Extensive international and national investment companies are generally associated with groups of Mexican and foreign developers, although some of these also participate as lessees, as holders of shares with investment and commercial companies, or participating in their divisions of financial companies. Therefore, it is possible to find different types of developers within shopping centers' construction and operation.

Empirical Analysis

Comprehending the shopping center industry in general terms and its business model will allow us to develop this study's focus in a robust manner. Without knowing how Shopping center industry works, it is impossible to develop an exemplary structure of analysis and conclusions. However, to summarize the matter in a few points, the business model of shopping centers consists of developing, building, and operating shopping malls, creating different income strategies that commonly come from business premises leases, rental of common areas, billboard rental, and their main clients the store tenants.

The authors chose the qualitative approach. Its primary advantage is that it offers a complete description and analysis of a research subject without limiting the research scope and the nature of participants' responses (Collis & Hussey, 2014, 5-6). Qualitative analysis is based on qualitative data such as text data from interview transcripts. This analysis is very dependent on the researcher's ability, integrative skills, and personal knowledge of the social context where the data is collected. A creative and investigative mindset is needed for qualitative analysis, based on an ethically enlightened and participant-in-context attitude and a set of analytic strategies (Miles & Huberman, 1984, 10-13).

This qualitative approach will be applied through personal interviews to identify a participant's emotions, feelings, and opinions regarding a particular research subject. Personal interviews' main advantage is that they involve personal and direct contact between interviewers and interviewees and eliminate non-response rates (Fisher, 2017, 43-46). The goal of the interviews is to find personal opinions of wise and expert people on a particular topic, in this case, regarding the Shopping Center industry in Latin America.

To attain this goal of finding opinions, the interviews with the experts took place according to the required resources and capabilities to compete in the shopping center sector and the recommended entry strategies to enter other countries in Latin America. The interviewees consisted of a group of ten managers in Company X.

The interviewees selected in Company X were only with (i) managerial positions with a minimum of 3 years of experience in the shopping center industry and (ii) professional background in other companies. Therefore, the authors consider them to have sufficient knowledge and experience in the shopping center industry.

These conversations were recorded and analyzed according to the Mayring (2015) method. Open-ended questions were defined as free-form survey questions that allow a respondent to answer in open text or voice format. They can answer based on their complete knowledge, feeling, and understanding. This means that responses to these questions are not limited to a set of given options (Bhat, 2020). Unlike a closed-ended question that leaves survey responses limited and narrow to the given options, an open-ended question allows researchers to probe deep into the respondent's answers, providing valuable information about the subject at hand. These questions' responses can then be used to attain detailed and descriptive information on a subject (Bhat, 2020).

The interview guide was divided into categories with 12 different questions to accomplish the goals of this research. Those categories are:

- C1: External factors (economic, social, and political).
- C2: Cultural differences.
- C3: Company X's expansion status.
- C4: Company X's expansion opportunities.
- C5: Differences in shopping center industries.
- C6: Recommended entry methods.
- C7: Raising capital.
- C8: Company X's differentiation (resources).
- C9: Other real estate differentiation (resources).
- C10: Company X's differentiation (capabilities).
- C11: Other real estate differentiation (capabilities).
- C12: Threshold resources & capabilities.

The interviews were conducted in June 2020, all via video conference using Google "hangouts meeting" due to the COVID-19 pandemic. The time for each interview was from 40 minutes to 1 hour. Data was collected using the interview guide recording every video conference digitally on a tablet device to transcribe all conversation details afterward and attain the correct findings.

The interviews were scheduled for approximately one to two weeks to notify the interviewees about the main topic ahead of time. The interviews were held in Spanish, considering all interviewees were Spanish speakers from Chile, Perú, or Colombia. At the beginning of each interview, the partners were informed about the recording, and the questions were asked immediately prior to recording acceptance.

Results

The interview analysis was divided into four steps, according to Mayring (2015, 70-72):

1. Paraphrasing: At this point, all nonessential transcriptions were taken out. The text was transformed into a language which was easier to comprehend. Text components that added nothing to the content was omitted.
2. Generalization: These reductions allowed researchers to access phrases summed up to conclude one idea or statement. Related meanings could be applied, and synonyms could be eliminated.

3. Reduction 1: A relationship between the previous generalizations was made, forming a new statement.
4. Reduction 2: In the second stage of reduction, several paraphrases referring to one another and occurring passage throughout the material were summarized and expressed in a single new statement.

As the content analysis of interviews required 16 pages of text, the results are explained in a condensed manner in the Discussion section.

Discussion

Shopping center's resources

Shopping center resources were addressed by categories 8 & 9 in the interview guide.

Shopping center (SC) companies, like any enterprise in any market, must seek advantages and differentiating factors that could increase profitability and longevity. Those differentiators have to work as success factors for them. In this study, we wanted to understand the most critical resources and capabilities for shopping center companies, which would be essential to differentiate from the competition and increase the possibilities of succeeding in Latin American countries.

In the case of resources, we can find the following:

- Shopping center assets: iconic assets are one of the essential values of SC companies. Having this group of resources enables us to negotiate in a better way with investors, tenants, suppliers, and others. This is the essential leverage of the real estate world. Mainly, the infrastructure and the contracts housed within the iconic assets are a critical value the company holds when deciding to sell. A future investor (buyer) will be the building's tangible and intangible value with the potential future income it would generate. It is also relevant for public appearance, promotion, and visibility in the market.
- Human capital: the most important asset is always the employees. Every person is unique, each with different qualities and attributes. The way people work can be vastly different. Besides the employees, the executives and directors are relevant, as they are the ones who have to make the right decisions and create a high-level human group.
- Reputation: the reputation of the company is an intangible resource that is hard to create and maintain over time. Shopping center companies can negotiate better terms with investors and financial institutions (such as interest rates), when having a high reputation. That is a fundamental issue in real estate - being competitive and considering that there are long-term periods of income returns. Industry reputation can be attained by demonstrating consistency and good operative and financial behavior, which may lead to easy negotiations with partners, investors, and banks.
- High cash flow: this resource is relevant for the industry since it allows the industry to not be 100% dependent on external entities for seizing opportunities, considering that these opportunities are not available all the time. High cash flow also enables industry to be strong in the case of any unexpected contingency and pay any pending issue passively. Also, SC companies represent an adequate risk rate level, which is useful for receiving competitive interest rates in issuing bonds or receiving credit.
- Portfolio of funds: it is a relevant point that companies can maintain several contact options of funds. Following that line of thinking, SC companies would be capable of appealing to different entities for financing their projects.
- Landbank portfolios: this means that SC companies maintain lands as assets still unexploited. This is a common practice used in this industry, where companies buy terrain with a possible high valuation in the future according to their analysis and expectations. When terrains are at a low price, having land proficiency would be an excellent strategy to construct shopping centers years later, when the neighborhood's urbanization has been increased, and the price of the land is higher than before. This strategy provides high savings and a competitive advantage.
- Vertical integration: some shopping center companies in Latin America are also retailers, who are tenants at the same time (and many times anchor). This vertical integration is an advantage for shopping centers when they want to create new projects since they can build a new shopping center with their stores, guaranteeing a complete project from the beginning with less interaction and negotiations with other clients.
- Location: in commercial real estate, it is said that location is everything. To maximize the possibility of succeeding and to attract top tenants (clients), a good location is of significant value. Good location may consist of strong visibility from main roads, proximity to high public flow (demographics), good public transport connectivity (metro stations and public buses), and easy access to the shopping center itself (cars and pedestrians).
- Infrastructure and design: good infrastructure in shopping centers may be an essential issue in differentiation. Nowadays, the strategy of differentiation has been followed by many companies adapting concepts to innovative designs. Companies are also concerned about nature and global warming, using alternative energies, applying saving resources mechanisms, using structures with green areas, and high technology climatization—all with the primary goal of granting an excellent customer experience.

Shopping center's capabilities

Shopping center capabilities were addressed by categories 10 & 11 in the interview guide.

Regarding capabilities, the following can be identified:

- Human capacities: this is well related to the human resources the company has, where distinguished experiences, knowledge, and skills may improve the company's success.
- Coordination of activities: In the shopping center industry, there are many activities to develop, not just creating a building with a good location and maintaining it. It is more than that; it is about creating a mall where the customer feels comfortable and wants to go. This is possible only by managing good structure coordination of different topics. Such topic includes facility management, cleaning, security services, entertainment, climatization, customer service, and parking. An excellent coordination capacity will differentiate a top shopping center from a common one.
- Commercial mix: this is the tenant mix that is subject to the layout of the shopping centers. It is important to have a high capacity to offer a mix of brands and concepts that attract consumers to buy products and services in tenants' stores. This importance lies in the fact that it is layout that will provide customers with an experience that will keep them coming back. The commercial mix will depend on the sort of tenants and their quality (is not the same for shopping center companies with big names such as H&M, Zara, Polo Ralph Lauren, Dolce & Gabbana, Gucci, or Luis Vuitton, then others SCs with unknown brands). That is why it is a crucial element to have strong capacities to create a high-profile tenants mix.
- Raising financial funds: this ability is fundamental for the sustainability of commercial real estate companies' expansion. The capability of raising funds means raising funds and negotiating business terms with other entities to receive money from different sources to accomplish its goals.
- Technology innovation capacities: the industry has been evolving in recent years. Technology is a relevant point to consider when data entry must be analyzed. Many software systems may assist companies in making better decisions in different terms. These include such actions as understanding customers' behavior, security systems accurately, management of efficiencies, parking services, customer services, maintenance efficiencies, energy reductions, and others. Every aspect is willing to offer an excellent service. Hence, SC companies must be aware of main industry innovations to differentiate themselves.
- Customization: this capability in the shopping center industry means companies' ability to understand the environment's needs (neighborhood) and their customers to create buildings that attract these customers. This factor demonstrates the adaptation capability of companies and social reading.
- Organizational culture: the organizational culture is an asset that involves many aspects. But in the shopping center, the industry makes a difference if a company can create a great environment that enables the employees to work with high standards, comfort, and happiness. It is the ability to recruit, motivate, potentiate, and retain talent. It is vital ability since a well-made culture can attract quality talent. Some examples of this are companies well-positioned in a great place to work index.
- Ability to transfer best practices: transferring the best practices among a group of countries. Finding the method of measure better and uniformly (verb) the activities to make them comparable, to manage, and find the best efficiencies in the shopping center company. Sometimes, international enterprises operate in each country in their own way, and that capacity of integration creates a differentiation.

In company X's case, the company has attained strategic differentiation by mainly working on significant development of shopping center buildings, human capital (with recruiting and retention programs) and Reputation in the market, high cash flow, and a strong portfolio of funds, and landbank portfolios. Furthermore, in capabilities, the company has been developing human capacities (knowledge and skills with educational and talent programs), commercial mix, activities coordination, and raising monetary funds.

Analyzing the minimum resources, a company must attain to survive in the shopping center industry consist of large retailer long term contract, high quantity of money, low-interest rates for financing, and attractive projects to receive a well welcome from the market costumers. Furthermore, capabilities need to do an excellent facility management (maintenance, climate, parking, elevators, etc.), Business knowledge (legal norms, retailers' knowledge, tenant contracts, operational execution, etc.) good Marketing strategy.

Shopping center's market entry strategy

Shopping Center market entry strategy was addressed by category 6 in the interview guide.

The research revealed that flexibility in finding the optimal formula to enter a new country in the shopping center industry is crucial. This flexibility is relevant to adapt to conditions and close deals with any local company disposed to sell a stake. The chosen option will depend on each situation, according to each market and each country.

At any rate, different strategies were shown in the interviews as the most recommended entry method to a new country:

- Mergers and acquisitions (M&A): M&A are transactions where a certain ownership level of a Shopping Center company is transferred or consolidated with other entities, in this case, with an international company. This alternative uses the local country's firm assets and combines them with the investor's resources and capabilities (or buyer). M&A allows us to receive local network access (to suppliers, tenants, and consumers), SC business knowledge, and relevant assets. This method also enables us to start a "Brownfield Project," which is the restructuring and renovation, or expansion, of an SC building. However, these costs may go beyond starting from zero as well as more time. It makes sense to buy existing assets since it will allow us to create a partnership with a local shopping center entity that knows in detail the country, who knows the rules, which gives specific stability at the beginning. It enables creating a base from where to expand further in the country after the first entry step is made (for example, starting with a shopping center in the capital city of a country and later expanding to other cities where opportunities are found). M&A can be made only if an SC seller counterpart is found in the local market to enter. Therefore, sometimes strong efforts to negotiate conditions may be made. These conditions my include establishing the SC company brand name locally, attaining the possibility of operating the shopping centers, besides others. Nevertheless, this method facilitates a speedy entry to a new country, which is one advantage.
- Greenfield: for entering with this method, it is relevant to keep in mind that a suitable location must be reached. Obtaining fair land in a strategic position is critical. Sometimes, the landowners are unwilling to sell the terrain, and it is necessary to perform more negotiations with them. In some cases, a good form of agreement would be to create a long-term contract to rent the lands, and then build a shopping center on it or concede the land with a contract that splits the RSC's revenues between the parts. That is why it is vital to maintain a landbank in the countries where the SC company desires to enter, keeping the lands and waiting until the neighborhood's urbanization is such that the moment to build the mall is appropriate. With greenfield, a good project is necessary in addition to the lands. An advantage of this method is that it provides the chance to build from the beginning and according to the most suitable neighborhoods and environment context. Thus, the project can agree with the concept and model the Shopping Center company wishes. Greenfield's disadvantage is that it may take several months or years to analyze, determine the project, and negotiate with the local entities for entering the country. The negotiations may last long, especially with local institutions, such as the country government and municipalities. Sometimes, the local mayors (on where the shopping center is expected to be built) is high and can add bureaucracy to obtain the permits to operate and construct the building. It is also relevant to know the industry's development level and the ownership model established in shopping centers at the local level.
- Joint venture: a joint venture is also an alternative when selecting a method of entering a new country. In this case, a commercial agreement is made between 2 or more entities: denominated "Venturers" or partners. It is a transitory agreement where the parts are involved in a specific business with defined terms and tasks, creating synergies of knowledge, capabilities, resources, and/or assets of shopping centers. Some common alternatives of the SC industry to board this method are combinations of properties to create powerful mixed assets. Also, a JV between a partner who contributes with strategic leasing and management direction and the other part who lease and operate the assets. Besides, Joint ventures where one part is owning a significant part of a shopping mall and the other part provides property management and assets management. This method allows us to share efforts, risks, and responsibilities when the chances of succeeding by oneself are not high. A good advantage of JV is that it enables us to enter a new country in the SC industry with a local partner in less time than a greenfield, creating synergies and receiving funds through it. Some disadvantages may include a conflict of interest and discrepancies when establishing priorities and strategies between the partners.

According to the analysis, all previous strategies may work if the multinational Shopping Center company's operational control is attained, and a partnership with a local entity can be arranged. Otherwise, the possibilities to succeed in entering a new country will not be high, especially considering the risks involved (local industry knowledge, cultural issues, social behavior, besides others).

Shopping center's financing

Shopping center financing was addressed by the category 7 in the interview guide.

An entry method strategy is possible only if a good capital engagement strategy is determined. In the case of the shopping center industry, the are several recommended ways to attain these resources to accomplish the expansion goals:

- Bonds' issuance: shopping center companies can use this method to collect funds through the issuance of debt. The bonds are sold in the market where several investors can get the chance to buy these instruments. Hence, the investors can benefit from the price raising of those bonds in the future or the interest yields. Bond issuance is commonly used to finance investment projects as well as expansion.
- Minority share sales: this method is also a good alternative and very interesting to analyze. Shopping cen-

ter companies sell their societies' participation or some assets to receive funds. This may be considered a type of "money recycling" since the company sells assets they obtained previously at a low price, adding value by operating the malls better, and then sells the assets at a higher price than before. Thus, the company also receives benefits from the starting acquisition.

- Private investors: this alternative is widespread in every market and industry. Private investment is the purchase of capital assets expected to grow in the future and then produce benefits. In the SC industry, this option can be used in every expansion project to receive funds. Here, the company seeks to sell the project's participation to a local entity in the country of expansion.
- Bank credits: this option is also widespread in every industry. The company goes to bank institutions to receive funds throughout a loan with an interest rate expected to pay during the lending period. This point is a crucial issue to have adequate finance background and behavior since low-interest rates are relevant to be competitive in the shopping center industry, considering the time of the loans, which are adequate to project periods in the long term.
- Own capital: capital is raised from the company's own resources. Using this method, the enterprise can use existing savings kept in a bank account, receive extra capital from the company owners, or sell other capital investments the company possesses to receive a cash flow to use for expansion.
- Stock market openings: this alternative can be applied just for companies that do not work on stock markets. Hence, entering the stock market can be a valuable method to raise income from investors by selling the company's stake through shares.

In the case of company X, the company has been growing abroad using mostly Mergers & Acquisitions and Greenfield projects. M&A is the primary choice, entering new markets obtaining 51% of the participation or more, enabling them to take control of the operations and decisions of the shopping centers. Nevertheless, the entry strategy in each country was according to the general context them. In Colombia's case, the possibilities of entering with an M&A strategy were complicated, considering the ownership model located there. One of the tenants was the landlords of the spaces, hindering the possibility of negotiating a purchasing of a Shopping Center since the only way to achieve it was bargaining with each of the landlords, representing an exhausting and even impossible task to accomplish. For Perú was different, and M&A was applied because the industry conditions were like Chile, and it was appropriate to do it.

Company X is still only in South America, considering that there are still opportunities in the currently located countries since there is a combination of closeness and stability in current countries, more affinities, and similarities. One of the essential points is that Chilean retailers, such as Falabella and Cencosud, have entered those countries, enabling them to enter new markets with well-known Chilean retailers' anchor stores. Entering a new country demands strong efforts, and many factors are involved, such as the level of remoteness to operate and control (object).

Nonetheless, company X is still deciding if expanding to other new countries or continuing to grow in current countries, mainly diversifying to other real estate businesses, such as home properties, hotels, offices, among others. Despite this, there is a desire to grow to other new countries, and many opportunities and risks are involved. However, it is important to enter with critical assets and relevant positions. In opportunities, we see more countries in Latin America with cultural similarities, markets with low square meters per inhabitant with the potential to grow faster, more countries with economic stability, and low capital costs to expand. Furthermore, regarding risks, we observe that there would be difficulties in convincing foreign investors about expansion. The retailers to negotiate are not the same. There is a high probability of entering with market prominence, hidden expanding costs, the level of distances and time differences, the risks associated with expanding from zero, losing attained economies of scale, and the adaptation period long.

Also, differences between countries in the shopping center industry must be considered with malls' ownership model. In some countries, there are multi-owner (tenants are the owners of spaces and use them or rent them), and the single owner (a company manages the mall and rent spaces to different tenants). Moreover, investing ways, business rules, the type of infrastructure (which may be according to the urbanization, social or environmental conditions (as climate)), industry standards; operation models; and KPI's measurements are also vital.

Selecting the target market

Selecting the market was addressed by categories 1, 2, 3, 4, and 5 in the interview guide.

The decision to select a country to enter is a crucial task. Therefore, a collection of trustworthy information must be made. The first point to understand is choosing Mexico, and many elements come to mind when selecting the main issues. First, Mexico is one of the emerging markets with the best forecast in economic terms, considering it is expected the country to grow almost three times its GDP by 2050, positioning itself among the top 10 countries worldwide. The population is also forecasted to increase 20% by 2050, from 126 million to 150 million (KNOEMA 2019). The country has a very developed middle class, with high-income levels and acquisition power (Euromonitor, 2020).

The country's level of openness is at a high level, which means international trade is significant to the economy. Foreign investments are also part of it, with a well-developed capital market for the Latin American region, especially in the real estate industry, with the Real estate investment trusts (FIBRAS) and Development capital certificates (WEF, 2020).

The shopping center industry in Mexico surpassed the forecasts of 2014, predicting that in 2025 the industry would attain 23 million square meters of sales area. However, as recently as in 2020, the country reached that number, and the projections are still looking forward to growth (ADI, 2020).

Another relevant topic to mention is that some Chilean retailers such as Falabella are also expanding to Mexico, which allows easy access to negotiations for Company X to enter the country. There is also a common language and socio-cultural proximities with Chile. Both are Latin American countries, with acceptable life quality standards (mostly in great cities such as Monterrey, Guadalajara, and Mexico City), a high Shopping Center industry development, considering the second oldest in Latin America, after Brazil.

Nevertheless, there are factors to be aware of, which include the level of corruption in Mexico, political management (country, regional, and municipalities), bureaucracy, level of competition, and security, which the company will have to deal with and find strategies to diminish.

Thus, according to the study analysis, a good entry method strategy to Mexico for company X would be an M & A, whose advantages were detailed previously. It is fundamental to enter the Mexican market with market reputation prominence, looking for top-ranked shopping centers to buy a stake.

There are two Mexican actors who own the top-tiers malls in Mexico: Fibra Danhos and Gicsa. Fibra Danhos owns “Parque Linda Vista”, “Parque Delta”, and “Parque Duraznos”. In the case of Gicsa, they own “Paseo Arcos Bosques”, “Forum Buenavista”, and “Paseo Interlomas”.

Furthermore, by analyzing the Net operational incomes (NOI) per square meter's efficiency, Fibra Danhos is better than Gicsa, as we may see in the following chart. It can be seen that GICSA has fewer NOI levels than Fibra Danhos, which shows the opportunities for improvements in the management and productivity of their shopping centers. Most of the buildings are valued at less than US$20 per square meter. Only one asset, “Paseo Arcos Bosques," reaches more than US$23 per square meter (which is, strangely, the only asset with shared participation with other companies). On the other hand, all the main centers of Fibra Danhos reach at least US$20 per square meter, proving better efficiencies.

Therefore, the market entry proposition would be purchasing GICSA's malls' participation, in a majority position to take over control and operate. In this case, "Forum Buenavista" and "Paseo Interlomas," considering those two shopping centers are owned 100% by GICSA, which is not the case of "Paseo Arcos Bosques" on which they possess a 50% of participation. The arguments of a selection of buying participation of Gica are summarized into the following points:

- “Forum Buenavista” and “Paseo Interlomas” are the Top-Tier Shopping Centers of Latin America and Mexico.
- The malls' age is relatively new (2008 and 2011, respectively), which means the cost of maintenance should not be very high compared to old ones. Moreover, the quality of the "Paseo Interlomas” building is remarkable.
- The tenant base is strong with some essential local retailers, such as Liverpool, El Palacio del Hierro, Sears, H&M, and Zara.
- Entering those malls will allow high market renown and public visibility to Company X.
- There are opportunities for productivity and efficiency in NOI, compared with other companies such as Fibra Danhos.
- Buying the participation majority will allow them to control shopping centers and have GICSA as a local strategic partner.
- The location is strong in both cases, with a high flow of public traffic. Forum Buenavista is situated in the city center, next to the central station, where there are many public transport accesses. Paseo Interlomas is in a luxury district next to highways with easy access parking lots.
- The Cap rate of both Shopping Centers is among the industry average of Latin American Top-Tiers (7,5%).

Conclusion

The Shopping Center industry has been increasing with a steady rhythm in Latin American countries, despite the tendency in other regions of the world such as the United States, where malls are disappearing. The trend in Latin America is due to different factors. However, the most important ones are middle-class incomes, which attained more financial security and access to credits, increasing over the last ten years, modifying the consumer basket of products and services to something above the basic ones, with more sophisticated preferences. Furthermore, the security that shopping centers grant to consumers is not available in most Latin American countries. Nevertheless, this increasing trend may be seen in several emerging market economies.

Four main objectives to understand the dynamics of shopping centers were indicated at the beginning of this paper:

- Recognize the key resources and capabilities to increase the likelihood to succeed in the Shopping Center sector in Latin America.

- Recognize the most recommendable entry strategies in the Shopping Center sector in Latin America.
- Understand the economic, social, and political context of Mexico.
- Define an entry strategy to Mexico for the Shopping Center sector.

Thus, we recognized that resources such as iconic shopping center assets, human capital, reputation, high cash flow, portfolio of funds, landbanks portfolios, vertical integration, locations, and Infrastructure & Designs are the most relevant to develop. Furthermore, elements such as human capacities, coordination activities, commercial mix, raising of financial funds, technology innovation capacities, customization, organization structure, and ability to transfer best practices are the essential capabilities to develop to be a thriving shopping center sector in Latin America.

Besides, the most recommendable entry strategies were recognized, and Mergers and Acquisitions (M&A), Greenfield, and Joint Ventures (JV) are among there. Over which is also relevant to determine the recommendable capital obtention strategy to accomplish expansion goals, where we found bonds issuance, minority share sales, private investors, bank credits, own capital, and stock market openings.

By examining Mexico, we analyzed that it is an exciting market to invest in, being one of the most promising economies to 2050, with an increasing population level, forecasting a better population's acquisition power level in the future, which impacts tremendously in the shopping center sector. It is a well-developed real estate industry with real estate investment trusts (FIBRAS) and Development capital certificates (CKD), with a high market openness willing to receive foreign capital and one of the most ancient SC industry Latin America. Mexico is also among one of the best countries in the region and is positioned in various indices' top ranks. Nevertheless, corruption levels, bureaucracy, and security are topics to be aware of for international companies.

Thereby, the optimal entry strategy for company X to enter Mexico's shopping center industry would be an M&A, buying majority participation for entering with a local partner who may contribute with capabilities and resources, operate, and combine them with the ones that Company X has. The selected company to majority participation would be "GICSA," acquiring "Forum Buenavista" and "Paseo Interlomas" since they are Top-tier shopping centers in Mexico and Latin America. That strategy will allow the company to enter Mexico with a prominent market presence. It also has many other arguments, such as the infrastructure age and quality of the buildings, the excellent location, strong tenant base, reasonable Cap rate, and opportunities for efficiencies, as well as profitability in administration.

Following this thesis's theory, company X is involved only in emerging countries (Chile, Perú, and Colombia). These countries must deal with all the contexts that emerging economies represent (learning opportunities, political instability, level of security, etc.). The company may be considered "the international among others" regarding the interactive internationalization model, since other Chilean shopping centers and retail companies work in other Latin American sites, which is an excellent element to create a value chain. Besides, it was confirmed that many physical, human, and financial resources are vital for succeeding in Latin America's shopping center industry.

Regarding the main research questions: "Which are the key resources and capabilities to increase the likelihood to success in the Shopping Center sector in Latin America?" and "Which are the most recommendable entry strategies in the Shopping Center sector of Latin American countries?", we can conclude that:

- Assumptions 2 and 3 ("experienced managers and teams" and "innovation-oriented policies") were confirmed.
- Many other answers were found in the study.
- In the second question, assumptions 1 and 2 were confirmed, but with significant emphasis on assumption 1 ("using a local partner").

Among limitations, it should be mentioned that it is necessary to further expand the analysis to other emerging countries. The shopping center sector is also an essential factor for such economies, such as Africa, Asia, or Eastern Europe. Besides, the study is based on a single case of company X, limiting its generalizability. Therefore, additional research must be made to improve the results of the study questions.

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Internacionalizacija panoge nakupovalnih središč s poudarkom na ključnih virih in neposrednih naložbah: primer čilskega podjetja v Mehiki

Izvleček

Zadnja leta panoga nakupovalnih središč beleži konstantno rast v Latinski Ameriki. Številne države, npr. Čile, Mehika in Brazilija, so vodilne v tej regiji. Številni projekti so še v fazi razvoja in portfelji različnih podjetij se spogledujejo z mednarodno širitvijo. Namen tega prispevka je določiti najbolj priporočljive vstopne strategije za države Latinske Amerike in osnovne vire ter zmogljivosti, ki jih potrebuje podjetje, ki ima v lasti nakupovalno središče, da bi povečalo svoje možnosti uspeha znotraj panoge. Zato smo analizirali različne dejavnike, ki vplivajo na delovanje te panoge, npr. politični, gospodarski in družbeni dejavniki, da bi pripravili splošen pregled najpomembnejših subjektov v tej panogi. V ta namen smo uporabili primarne in sekundarne podatke, pridobljene s pomočjo pregleda literature in empirične kvalitativne študije, pridobili informacije o čilskem nepremičninskem podjetju in intervjuvali vodilne menedžerje. S pomočjo rezultatov smo pripravili predlog strategije vstopa na mehiški trg in določili najpomembnejša nakupovalna središča v državi, glavne akterje in najboljše možnosti za vstop.

Ključne besede: nakupovalno središče, viri in zmogljivosti, vstopne strategije, nastajajoči trgi, Čile, Mehika

Factors Affecting Career Choice of Business Students in the Senior High Schools: A Study of Selected Schools in the Cape Coast Metropolis

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John Archison Duku
Xi'an Jiaotong University, School of Management, People's Republic of China
archisonjohn@gmail.com

Leticia Bosu
University of Cape Coast, Department of Business and Social Sciences Education, Ghana
leticia.bosu@ucc.edu.gh

Dominic Ekow Ansah
University of Cape Coast, Department of Business and Social Sciences Education, Ghana
dominicansah1991@gmail.com

Abigail Achiaa Agyapong
University of Cape Coast, Department of Business and Social Sciences Education, Ghana
eksraw5@gmail.com

Abigail Afia Bafowaah
University of Cape Coast, Department of Business and Social Sciences Education, Ghana
archisond@yahoo.com

Ebenezer Kobina Drokow
University of Cape Coast, School of Business, Ghana
edrokow77@gmail.com

Francisca Arboh
Hebei University of Technology, School of Economics and Management, People's Republic of China
arboh20@gmail.com

Abstract

Factors affecting business students' choice of career in accounting and factors affecting business students' inability to choose a career in accounting remains unclear. We used SPSS to analyze data collected from four randomly selected senior high schools in the central region of Ghana through questionnaires. This paper investigated the influences of job opportunities, personal interest, family influence, social status, peer influence, salary expectation, weakness in mathematics, time it takes to become an accountant, and stress involved in the accounting career. The paper then revealed the effects of these in-

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fluencing factors. Though other factors were found to have substantial effects, the results clearly shows that high salary expectation and job opportunities are the most influential factors that influences a business student's choice to choose or not to choose a career in accounting. These results could be used as a reference for educational reforms and career counselling.

Keywords: business students, career choice, influential factors

Introduction

In recent years, the decline in quantity and quality of student enrollments in accounting has caused much alarm among academics, professionals, and professional bodies. This has led researchers to investigate the reasons regarding career choice in the accounting field. Mauldin *et al.* (2000, p.142) state that "the primary objective of accounting programs is to produce a sufficient number of graduates who possess substantial accounting knowledge, with the strong communication and analytical capabilities demanded by employers". To meet the demands of employers, accounting programs must graduate the best and brightest students with high aptitudes. When there is a continuous decrease in the quantity and quality of graduates in the accounting field, it may mean the education system is not able to meet the demands of the job market. Many factors affect career choices of high school students. Identifying these factors would give parents, educators, and industry an idea as to where students place most of their trust in the career selection process. It would also allow students to examine processes they use for career selection.

Career choice is one of many important decisions students will make in determining future plans. This decision will impact them throughout their lives because, "the essence of who the student is will revolve around what the student wants to do with their life-long work" (Brochert, 2002). Every student carries the unique history of their past and this determines how they view the world and the career opportunities that are available to them in their chosen field of study.

Several studies show that new college students all over the world usually consider a wide variety of factors influencing their career choice decision (Aldrich et al., 2020; Achim, Badrolhisam, & Zulkipli, 2019). Arghya and co-authors (2020) revealed that convenience, family background, societal status, family income and parental pressure were the (main) factors responsible for career choices among Indian students. In most cases, choice of careers, subjects, and courses of study as well as the subsequent career paths are a nightmare for prospective undergraduate students (Issa & Nwalo, 2008). This is because most students do not have enough knowledge and information to make the right career choice. Most often, choosing the right subject combination leading to the right profession can make the difference between enjoying and detesting the career in future. Everyone undergoing the process of making a career choice is influenced by such factors as the context in which they live, their personal aptitudes, and educational attainment (Watson et al., 2010).

In 2019, the American Institute of Certified Public Accountants (AICPA) reported that the number of accounting graduates trended downward in the 2017-18 academic year, with decreases of 4% at both the bachelor's and master's levels. In 2018, female accounting graduates outnumbered male graduates at the master's level. Racial/ethnic diversity has increased in accounting graduates, with a seven (7) percentage point increase in Hispanic or Latino accounting graduates.

Ghana as a developing country, experiences development at a much slower pace compared to developed countries. However, the most important factor to effect national development is human resources. Development of a nation is largely dependent on this singular factor which is the greatest resource any country or nation can have. This resource, if properly harnessed, can catapult a nation to a realm of immense development and growth. Hence, the issue of career choice cannot be ignored and must be effectively managed.

Literature Review

Concept of choice

Choice is the outcome of a process which involves assessment and judgment; that is, the evaluation of different options and deciding about which option to choose. For these processes to take place and a choice to be made, there needs to be two or more alternatives from which to choose. In addition, these alternatives should have some positive value; in this sense a 'choice' between something which is desired and something which is not desired is not a true choice. The processes entailed in choice all involve cognition, and psychological theories concentrate on explaining how people make choices, in particular the cognitive processes that underlie choice. Empirical research on how people make decisions and choices covers a range of different people in different situations with different levels of cognitive skills. The role of cognitive ability has repeatedly been shown to explain age differences in decision quality and strategy use (Jin, Ji, & Peng, 2019). These cognitive abilities and their limitations are also influential in constraining choices so that choice making varies from what may be ideal and logical. The way people can and do make decisions varies considerably. Much earlier research has focused on the way we are observed to make decisions and the way in which we should theoretically make decisions, and as a result, the range and diverseness of theory is vast.

Review of empirical literature

Obiamaka and co-authors (2015) conducted a similar study in Nigeria. They used questionnaires to collect their data, and they used SPSS version 17 to analyze through factor analysis and the t-test. The outcome of their study was that it is difficult for students to choose between pursuing an accounting career in the industry and in academics. This study depicts one factor to be considered in our study; that accounting careers in the industries provide better remuneration. Hezlina and Abdul (2015) also discovered through data collected from Malaysian senior high school students that; parents, especially mothers, have a greater influence over the career choice of their children than the children's peers. However, they also found out that the educational background of parents does not have much influence on the career choice of their children. In 2016, a further study conducted by Haslinah and co-authors in the University of Putra Malaysia also revealed that there were two categories of factors that influence career decisions based on researcher judgement: internal and external factors. The internal factors were identified as interest in the subject, self- perception, the relationship with family, friends, and lecturers. The external factors stated by respondents in the study were educational attainment, salary, experiences from practical training, school and university's entry system and gender gap.

In 2016 Josephine Nyamwange of Masai Mara University, also conducted a similar study in universities in Kenya. The study concluded that student's interest is significant in determining career choice decisions for an individual's career. Another researcher from Zimbabwe, Jeofrey Mtemeri, through his research work in 2017 discovered that family (especially parents), schools, and peers have significant influences on the career choice of students. Research conducted by Kazi and Akhlaq in 2017 also showed the parents' influence as most significant, followed by influence from peers, gender, print media, financial reasons, interest and then others.

In 2020 however, a study conducted by Aldrich and co-authors revealed similar factors. Data collected in this study was analyzed with mean, frequency, and chi-square. The researchers also found that the financial status of students in school affects their personal decisions, but not parental or peer influence. Lastly, Arghya and co-authors (2020), with the use of thematic-based analysis of interviews, conducted in their study of 33 Indian students, discovered that convenience, family background, societal status, family income, and parental pressure were the factors that were responsible for certain career choices of students in India.

All the above works of research brought out the factors that influence students' decision to choose careers. But none of the studies actually categorize the factors into the ones that influences them to choose and the ones that influences them not to choose. Hence, our study will seek to categorize the factors into such categories and find the most influential ones in each respective category.

Methodology

The design for the study was a descriptive survey. The descriptive survey provides opportunities for researchers to gain valuable insight into the existing state of a phenomenon. The target population for the study consisted of all business students in senior high schools within the Cape Coast Metropolis in the Central Region of Ghana. The total number of business students in the selected schools was 1,320. The accessible population was 440 students. However, in accordance with the formula for determining sample size from a given population given by Krejcie and Morgan (1970), a sample size of 205 students was selected for the study. Out of the total sample, 51 students from each of the first three schools participated in the study, and 52 students from the last school also participated in the study. The respondents were selected through the simple random sampling technique. This sampling technique accords each member of the population an equitable chance of being selected. It suffices to say that the sampling technique was appropriate due to the similitude of the study's population in terms of their characteristics. Also, it will enable us to arrive at an elaborated view on students regarding the study. The simple random technique was used in the research because it ensures that the selection of respondents is free from human bias, and it also gives each member of the group a fair chance of being selected.

Research questions

In relation to the research objectives and reviewed literature, the following questions were formulated to guide the study:

1. What are the factors that affect business students' choice of careers in accounting?
2. What are the factors that affect business students' inability to choose careers in accounting?
3. What is the most influential factor that affects business students' choice of careers in the accounting field?
4. What is the most influential factor that affects business students' inability to choose careers in the accounting field?

Research instrument

Despite the availability of several research instruments, a questionnaire was used in the collection of data from the respondents. The decision to use this instrument stems from the consideration that it is the best method by which reliable responses can be elicited in the study of this kind. The questionnaire was divided into five (5) sections, consisting of 27 items. Section A of the questionnaire sought to gather information from the background of the respondents. These included factors such as gender and age of the respondents. Sections B and C, however, elicited information on the factors affecting the respondents' choice and inability to choose a career in the accounting field, respectively. Sections D and E also required respondents to rate the top three factors that influence their choice or inability to choose a career in accounting, in order of the level of influence.

Data collection and analysis

Before administering the instrument, we visited the participating schools with a letter of introduction from the Head of Department, Department of Arts, and Social Sciences Education (DASSE), University of Cape Coast. The questionnaires were administered personally. Respondents were briefed as to what the study is about to get their needed attention, support, and co-operation. We had a 100% rate of return on the questionnaires.

The returned questionnaires were categorized and coded based on the objectives of the study. The responses were therefore transferred onto a spreadsheet, specifically statistical package for social science research (SPSS) version 17 for analysis. Descriptive statistics and the binary logistic regression analysis were finally used to analyze the data.

Results and Discussion

Research question 1: What are the factors that affect business students' choice of career in accounting?

Section B of the questionnaire sought to gather information about the factors influencing Business students' choice of career in accounting. The results are shown in Table 1.

Table 1. Factors influencing business students' choice of career in accounting

	Agree		Disagree		Total	
Factors	**No.**	**%**	**No.**	**%**	**No.**	**%**
Good job opportunities	116	84.1	22	15.9	138	100
Personal interest	99	71.7	39	28.3	138	100
Family influence	41	29.7	97	70.3	138	100
Peer influence	16	11.7	121	88.3	137	100
High salary expectation	113	81.9	25	18.1	138	100

From Table 1, it could be observed that 116 (84.1%) out of 138 respondents agreed that the availability of a good job opportunity has a great bearing on their decision to pursue a career in accounting. However, the remaining 22 respondents, representing 15.9%, disagreed with the assertion that the availability of good job opportunities has an influence in their choice to undertake a career in accounting. This implies that the availability of good job opportunities in accounting plays an integral role in a respondents' decision to take a career in accounting. The finding concurs with the findings of Nelson, Vendrzyk, Quinn and Allen (2002), who identified changing availability of jobs in accounting as one of the three variables that informs students to take accounting subjects as their major and accountancy as a career aspiration.

Again, the degree of monetary advantage that a particular occupation offers its professionals goes a long way in determining the interest or disinterest of people towards such an occupation. The more the financial benefits associated with a particular career, the greater the inclination of people towards that field of occupation. The study therefore sought to find out how high salary influences students' choice of an accounting career. Results from Table 1 shows that out of 138 respondents, 113, representing 81.9% of the respondents, clearly admitted that their desire to pursue an accounting career is due to the high earnings associated with careers in accounting. However, the remaining 25 respondents, constituting 18.1%, disagreed with the assertion that the influence of a high salary played a role in their decision to take a career in accounting. Thus, results from Table 4 portray that respondents' choice of careers in accounting is significantly associated with high salary expectations.

Also, the interest of students cannot be overlooked when it comes to decision on which career to pursue. In this respect, a poignant attempt was made to find out from students if their personal interest has an impact on their decision to pursue a career in accounting. Results in Table 1 revealed that out of a total of 138 respondents, a profound number of the respondents 99 (71.7%), agreed that their quest to offer a career in accounting is influenced by personal interest. The remaining 39 (28.3%) respondents disagreed that their choice of accounting career is influenced by personal interest. This therefore implies that most respondents choose careers after carefully considering their personal interest in the course. This supports the findings of Aldrich and co-authors (2020), who found that self-choice influences students' decisions.

Additionally, the role of the family in career selection has been viewed as domineering to a degree that violates the principle of self-volition. In this regard, the study sought to find out the role of family influence on students' career aspirations. As shown in Table 1, only 41(29.7%) of the students agreed that their intent to choose accounting as their career prospect was influenced by their respective families. This is an indication that family pressure has a narrow influence on a business student's choice of a career in accounting. However, a significant number of the respondents 97 (70.3%) did not agree with the claim that family influence is a major factor behind their quest to pursue a career in accounting. The implication of this is that the role of family influence is quite insignificant when it comes to career selection in accounting among the respondents.

Furthermore, the influence of peers in students' decision-making process cannot be underestimated. This is because most students are more likely to turn to their peers as a point of reference when it comes to a decision on which career to pursue. The results in Table 1 indicated that a small proportion 16 (11.7%) of the respondents admitted that there is an element of peer influence on their choice of accounting as a career option. Conversely, a larger proportion 121(88.3%) of the respondents disagreed that it is peer influence that coerced them to pursue an accounting career. Thus, the findings presented in Table 1 depict peer influence as playing an insignificant role in the respondents' choice of an accounting career.

Research question 2: What are the factors that affect business students' inability to choose a career in accounting?

On the other hand, section C of the questionnaire also sought to elicit information about the factors that affect business students' inability to choose a career in accounting. Results are shown in Table 2.

Table 2. Factors affecting business students' inability to choose a career in accounting

	Agree		Disagree		Total	
Factors	**No.**	**%**	**No.**	**%**	**No.**	**%**
Better job opportunities in other fields	49	73.1	18	26.9	67	100
Family influence	12	17.9	55	82.1	67	100
Higher salary expectation in other careers	43	64.2	24	35.8	67	100
Stress involved in accounting careers	38	56.7	29	43.3	67	100
Length of time taken to become an accountant	28	41.8	39	58.2	67	100
Weakness in mathematics	16	23.9	51	76.1	67	100

For Table 2, the 67 respondents who stated that they do not want to take a career in accounting were further asked to cite reasons for their dislike for accounting careers. 49 representing 73.1%of these students cited better job opportunities that other careers offer as the reason behind their decision. However, the remaining 18 respondents, constituting 26.9%, did not accept the statement that better job opportunities offered by other career influenced their decision to shift away from an accounting career. This finding implies that better job opportunities provided by other disciplines have the tendency to sway the respondents from pursuing careers in accounting.

Regarding the expectation of earning high salaries in other careers, results from Table 2 showed that 43 (64.2%) of the respondents admitted that their decision to engage in other careers and not accounting is motivated by the higher salary earnings associated with other career professions. This could stem from the fact that respondents might have observed people in other professions excelling in life more than some people in accounting jobs. Interestingly, 24 of the respondents, making up 35.8%, did not agree that high salaries connected with other careers are the reason for not taking up an accounting career. Findings from Table 5 imply that higher salary expectations associated with other job opportunities are a contributing factor for respondents' inability to take a career in accounting. This is in line with Jeofrey Mtemeri's research finding through his research work in 2017. He found out that financial reasons have a significant influence on students' decision to choose a particular career.

Also, family influence is said to have necessitated the change of business students from accounting to other job opportunities. However, from Table 2, a small number 12 (17.9%) of the respondents agreed that their decision to move from accounting career was indeed influenced by family pressure. On the contrary, a great proportion 55 (82.1%) of the respondents disagreed with the role of family influence on their decision to venture into other careers other than accounting. Thus, from Table 5, it is worthwhile to note that family influence has little to do with the respondents' decision to choose other career fields ahead of accounting. The finding of the study contradicts the findings of Constantinou, Michailidis and Kyriakidou (2011). Constantinou, Michailidis and Kyriakidou found that there is a significant association between family and students' preference for a particular course of study, and that parents are more influential in students' decision compared to other factors.

Stress embedded in certain categories of career opportunities has been found to affect the decision to choose or no to choose certain occupations. Results presented in Table 2 indicate that out of the 67 respondents, 38 (56.7%) of the respondents attributed their inability to take a career in accounting to perceived stress involved in the accounting career options. However, 29 representing 43.3% of respondents, disagreed with the statement that stress associated with accounting career options could have shifted their choice of career in accounting to other fields. This finding implies that stress associated with accounting inclined occupations diminishes the spirit of most respondents, hence, their preference for careers in other disciplines.

Again, the strength and weakness of individual students in a particular subject area is said to be a good recipe for cogent decision making as far as career aspiration is concerned. Results from Table 2 showed that out of 67 respondents, a small number 16 (23.9%) of the respondents agreed that their inability to opt for a career in accounting is because of their weakness in mathematics. Indeed, accounting is mathematics oriented, and any student who has a mathematics phobia may not desire to use it as a career option. Despite this fear expressed by these 16 students, a great proportion 51 (76.1%) of students did not ascribe their inability to select career in accounting as their career prospect to the mathematical nature of accounting. This finding implies that most respondents do not consider the mathematical nature of accounting as the main reason for their inability to choose a career in accounting.

Research questions 3 & 4: What is the most influential factor that influences business students to choose a career in accounting or not?

The model for the study was tested before the analysis for the third and fourth research questions were made. The chi-square test was used in the analysis of the top three most influential factors in each scenario (Table 3).

Table 3. Omnibus test

	Chi-square value	df	Sig.
Likelihood Ratio	22.080	6	0.000
Pearson	22.052	6	0.000

The results of the test show that our model containing the set of predictors identified in the study represents a significant (i.e., $p < 0.001$) improvement on fit when compared to an unconditional model with no predictors. The results of the two chi-square tests also gave us quite similar values, which indicates that our predictors are correlated.

A further test of our model revealed that 11.2% to 56.9% of the variance in our dependent variable is explained by our dependent variables. This indicates that our independent variables in the model are good predictors of the dependent variable. The results are shown in Table 4.

Table 4. Model summary

Step	Cox & Snell R square	Nagelkerke R square
1	0.112	0.569

Many factors come in to play when it comes to factors that influence business students to take career in accounting. However, these factors have different degrees of influence on individual student's decision-making process. Hence, sections D and E of the questionnaire sought to ascertain the most influential factor that influences a students' decision to take up a career in accounting, as well as the most influential factor that influences a student to do otherwise. Binary logistic regression analysis in SPSS was used to analyze the data and the results are presented in Table 5.

Table 5. The most influential factors that influences business students to choose a career in accounting or other fields

Predictor	B	Sig.	Exp (B)
Good job opportunities	0.798	0.000	1.721
High salary expectation in accounting jobs	1.021	0.000	2.642
Personal interest	0.661	0.005	1.122
Better job opportunities in other fields	-0.993	0.000	2.374
Stress involved in accounting jobs	-0.698	0.008	0.785
High salary expectation in other fields	-0.822	0.000	1.692

Source: Field data, 2018

To determine the most influential factors that influence business students to choose a career in accounting, respondents (who opted for careers in accounting) were made to rank the three most influential factors that influence their decision in the order of the degree of influence.

From Table 5 above, it can be seen that, holding all the other factors constant, with a single increase in the expectation of high salaries in the accounting field, a business student is 2.642 times more likely to choose a career in the accounting field than other fields. This clearly shows that most of the respondents believe that their expectation of earning high salaries in accounting careers is the most influential factor in choosing a career in accounting. Good job opportunities in the accounting field are the second most influential factor, while personal interest is the least influential among the three factors that had a positive effect on students' decision (with odds ratios of 1.721 and 1.122 respectively). The positive regression coefficients (B) indicate that there exists a positive relationship between the three factors (high salary expectation, good job opportunities and personal interest) and the choice of a career in accounting. Thus, the more business students consider these factors as important in their decision making, the more likely they are to choose careers in the field of accounting. This finding is in line with Nur'ain and co-authors (2019), who also identified salary and other benefits as influential factors in career decision making.

Results from Table 5 also shows that the most influential factor responsible for business students' decision not to pursue careers in accounting is their perception of obtaining better job opportunities in other fields. This is because it has the highest odds ratio among the predictors with negative beta values as shown in Table 5 above. Thus, when all other factors are held constant, with a single increase in the expectation of better job opportunities in other fields, a business student is 2.374 times more likely to choose a career outside the accounting field. With an odds ratio of 1.692, high salary expectation in jobs outside the field of accounting is the second most influential factor that influences students' decision to pursue a career in other non-accounting fields. Stress involved in accounting careers was identified as the least influential among the three influential factors with a negative effect (having an odds ratio of 0.785). The negative regression coefficients (B) show that there is a negative relationship between these factors and the students' decision to opt for a career in the field of accounting. Thus, the higher the influence of these factors, the less likely it is that the student might opt for a career in the accounting field.

Conclusion

With respect to factors influencing business students' choices of career in accounting, the study revealed five factors, namely, good job opportunities, personal interest, social status, peer influence and high salary expectations. With respect to factors affecting students' inability to choose a career in accounting, the study revealed six factors, namely, better job opportunities in other fields, high salary expectations in careers in other fields, family influence, weakness in mathematics, length of time taken to become an accountant, and the stress involved in accounting careers. Regarding the most influential factor that affects business students' choice of career in accounting, the study revealed that most respondents agreed that high salary expectation was the most influential factor. On the issue of most influential factor that affects business students' inability to choose a career in accounting, the study revealed that most respondents agreed that better job opportunities in other fields was the main factor.

Based on the objectives of the study and the corresponding findings presented above, the following conclusion could be drawn: There is sufficient evidence from the study to conclude that there is a positive relationship between students' decision to pursue accounting careers and factors such as availability of good job opportunities in accounting, personal interest, social status, and high salaries. Thus, when all these factors are prevalent, students would be enthused to pursue a career in accounting. However, a high salary expectation is the most influential factor that is likely to influence the decision of most business students as far as career choice is concerned. From the study, it is imperative to conclude that factors such as better job opportunities, higher salary earning associated with other careers, and stress inherent in accounting related jobs have a greater tendency to influence business students not to pursue a career in accounting. However, the most influential factor that is likely to influence business students to pursue careers in other fields other than accounting is the better job opportunities that other fields offer.

Recommendation

Based on the findings and conclusions drawn, the following recommendations are made: Heads of second cycle institutions in collaboration with Ministry of Education should organize sensitization workshops to enlighten all students on the need and importance of accounting as a subject of study. This will tend to broaden the understanding of students, and hence motivate them to pursue accounting related careers. For students to make the right career choice, the family (parents) should be encouraged not to force their children into careers. With parental guidance and support, children can make the right career choice. Teachers, like parents, work very closely with learners in schools and they know the abilities of their students in various subjects. Therefore, teachers should guide their students in their career choice and aspirations in line with their abilities in various subjects. Heads of schools should ensure that their schools provide career guidance to learners during their high school studies. The career guidance programs guide learners in making their career choices and aspirations before entering university.

Areas for further studies

Future research on the same topic should be extended to other schools in other regions in the country to enable generalization. This study only focused on the schools in Cape Coast Metropolis, hence the need to extend this study to other parts of the country. In addition, future research should be extended to include first- and second-year business students also. This is because this study only focused on final year business students.

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Dejavniki, ki vplivajo na izbiro kariere pri dijakih srednjih poslovnih šol: študija izbranih šol v metropoli Cape Coast

Izvleček

Dejavniki, ki vplivajo na to, da dijaki srednjih poslovnih šol izberejo kariero v računovodstvu in dejavniki, ki vplivajo na to, da se dijaki srednjih poslovnih šol ne odločijo za kariero v računovodstvu, ostajajo nejasni. Z uporabo programa SPSS smo analizirali podatke s štirih naključno izbranih srednjih šol v osrednji regiji Gane, pridobljene s pomočjo vprašalnikov. Ta prispevek raziskuje vplive zaposlitvenih možnosti, osebnih zanimanj, družine, družbenega statusa, vrstnikov, pričakovanj glede plače, šibkega znanja matematike, trajanja usposabljanja za računovodjo in stresa, ki je prisoten v računovodskem poklicu ter razkriva učinke omenjenih vplivnih dejavnikov. Čeprav je bilo ugotovljeno, da imajo tudi drugi dejavniki bistven vpliv, rezultati jasno kažejo, da dejavnika 'visoka pričakovanja glede plače' in 'zaposlitvene možnosti' najbolj vplivata na to, da se dijaki srednjih poslovnih šol odločijo za kariero v računovodstvu ali ne. Ti rezultati bi lahko služili kot referenca za reforme izobraževanja in karierno svetovanje.

Ključne besede: dijaki srednjih poslovnih šol, izbira kariere, vplivni dejavniki

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Primer 2a: Engle and Granger (1987) present critical values also for other cointegration tests.

Primer 2b: Engle and Granger (1987, p. 89) present critical values also for other cointegration tests.

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