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**STUDENTS SYMPOSIUM ON STRATEGIC
MANAGEMENT**

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DIRECT MARKETING CONTEMPORARY CONCEPT IMPLEMENTATION IN SALES ACTIVITIES

Sara Tešanović, Sergej Živković*

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Abstract: Origins of direct marketing are related to catalogue advertising however catalogue advertising is just one of the techniques of direct marketing. Direct marketing encompasses activities by which seller, in order to sell the goods, invests direct efforts at the targeted market by using one or more media (direct sale, e-mail, telemarketing, cable TV, direct mail, etc.) in order to yield response. This paper researches contemporary concept of direct marketing with special focus on privacy and data protection. Data protection and privacy has been lately becoming more and more significant in Bosnia and Herzegovina, especially when it comes to direct marketing, which represents direct communication with potential consumers. Data basis compile personal data on potential buyers, their habits, wishes, preferences, needs, and represent basis for creating successful marketing activities. Promotional material is sent directly to the potential buyers' addresses. Customers are sometimes rightly afraid of irresponsible use of their personal data, frequent disturbing via electronic media and violation of their privacy. Results of the research confirm that direct marketing in sale communication requires well planned and controlled approach. Each and every step when implementing direct marketing request prior testing in order to obtain measurability of the replies, which makes it different from the rest of the promotional and sale marketing activities. The research detected three components of this two-way interaction: dialogue, satisfaction of needs (result of communication) and maintaining the dialogue.

Keywords: direct marketing, relationship with consumers, communication, data security, privacy protection.

PRIMENA SAVREMNOG KONCEPTA DIREKTOG MARKETINGA U PRODAJNIM AKTIVNOSTIMA

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Abstrakt: Pojava direktnog marketinga vezana je za katalošku prodaju, ali je kataloška prodaja samo jedna od tehnika djelovanja. Direktni marketing predstavlja aktivnosti pomoću

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kojih prodavac, da bi razmijenio robu sa potrošačem, ulaže direktno napore na ciljnom tržištu, koristeći se jednim ili više medija (direktna prodaja, e-mail, telemarketing, kablovska TV, direktna pošta i sl.) radi dobijanja odgovora. U ovom radu istražujemo savremeni koncept direktnog marketinga sa posebnim osvrtom na zaštitu privatnosti i bezbjednost podataka. Zaštita podataka i njihova bezbjednost u posljednje vrijeme u Bosni i Hercegovini sve više dobija na značaju, a posebno u direktnom marketingu koji predstavlja direktnu komunikaciju sa interesentima i kupcima. Baze podataka sadrže lične podatke o kupcima i interesentima, te njihove navike, želje, htijenja, prefencije, potrebe i osnova su za kreiranje uspješnih marketing aktivnosti. Promotivni materijali se šalju direktno na adrese stanovanja kupaca i interesenata koji su nekad i s pravom u strahu od neodgovornog korištenja njihovih ličnih podataka, čestih uznemiravanja elektronskim sredstvima i narušavanja njihove privatnosti. Rezultati istraživanja potvrđuju da direktni marketing u prodajnoj aktivnosti i komunikaciji zahtijeva unaprijed planiran i kontrolisan pristup, a svaki korak u provođenju direktnog marketinga traži prethodno testiranje kako bi se obezbjedila mjerljivost dobijenih odgovora što ga razlikuje od ostalih promotivnih i prodajnih marketing aktivnosti. U toj dvosmjernoj interakciji detektovali smo tri komponente: dijalog, zadovoljenje potreba (rezultat komunikacije) i održavanje dijaloga.

Ključne reči: direktni marketing, odnosi sa kupcima, komunikacija, bezbjednost podataka, zaštita privatnosti.

1. UVOD

Razvojem i primjenom novih tehnologija modernog doba u provođenju direktnog marketinga, bitno je pomenuti definiciju Bob Stona po kojoj je direktni marketing upotreba medija oglašavanja sa svrhom trenutnog podsticanja kupčeve reakcije na način da se ta reakcija može pratiti, evidentirati, analizirati i arhivirati u bazama podataka s ciljem njihovog korištenja u narednim kampanjama. Većina teoretičara iz oblasti marketinga jednoglasno su konstatovali, na osnovu rezultata istraživanja, da je marketing, kao poslovna funkcija, u jednom trenutku došao u opadajuću fazu svog životnog ciklusa. Najjednostavnije rečeno, sve manje je privlačio interes da se u njega investira, osim za eventualnu diverzifikaciju postojećih marketinških aktivnosti, sa akcentom na ekonomsku propagandu. Pokazalo se da je uslov "oživljavanja", opstanka i daljeg razvoja, ubrzano usvajanje i primjena dramatičnih promjena u komunikacijskim aktivnostima, kako u samom konceptu integracije komunikacijskih aktivnosti, tako i u ogromnom potencijalu podrške informacionom tehnologijom sa u potpunosti novim strateškim mogućnostima.

Na prostorima Bosne i Hercegovine, posebno je zastupljen i prepoznatljiv otpor promjenama u organizacijama. Marketing menadžeri prije upravljanja promjenama, često im se suprostavljaju jer ih smatraju prijetnjom i ograničenjem kreativnosti i okvirima njihove kontrole. Marketing funkciju treba modernizovati novim načinom razmišljanja, upravljanja i primjene. U ovom smislu, u savremenom poslovanju, kao osnovni zadatak postavlja se usmjeravanje ka izgradnji optimalnog nivoa odnosa, kako sa kupcima/klijentima, tako i sa ostalim grupama koje čine mikrookruženje odnosnog poslovnog sistema (dobavljači, konkurenti, distributeri i dr.), a koje u značajnoj mjeri određuju uslove i kriterijume tržišnog poslovanja u određenim situacijama. Taj novi marketinški pristup je fokusiran na tržišne segmente kupaca/klijenata ali ne na bazi ostvarenja prodaje i sticanja profita kao poslovnih ciljeva već na bazi zadovoljenja kupaca i njihove satisfakcije koja dovodi do lojalnosti.

Povećanjem međusobnog povjerenja, privrženosti, odanosti, te trajnije vezivanje kupaca za marku proizvoda i organizaciju, postiže se strategijama koje u svom fokusu imaju osmišljeno kreiranje dijaloga sa kupcima/klijentima te učvršćivanju odnosa s njima.

Jedan od takvih načina direkne komunikacije sa kupcima je primjena direktnog marketinga koji koristi metode „po mjeri kupca“. Komuniciranje „po mjeri kupca“ pruža odlične mogućnosti za upoznavanje, uspostavljanje i njegovanje dugoročnih odnosa sa kupcima/klijentima koji stvaraju lojalne kupce/klijente, te se ostvaruju uslovi za postizanje dugoročne profitabilnosti poslovanja, što je i cilj svake organizacije.

Nekada davno, marketing je imao direktan oblik komunikacije kada su se prodavci susretali sa potrošačima direktno licem u lice. Direktni oblik komuniciranja je evoluirao u masovni marketing u kojem organizacije razvijaju standardnu poruku i šalju je širokom auditorijumu putem sredstava za masovno komuniciranje nadajući se da će na takav način komuniciranja kupci kupovati njihove promovisane proizvode. Organizacije tada nisu imale potrebu za dvosmjernom komunikacijom i da znaju imena potrošača ili bilo kakve druge informacije o njima. Direktni marketing da bi dobio neposredan odgovor odnosi se na dvosmjerno komuniciranje sa ciljnim tržištem i individualnim kupcima/klijentima često „jedan prema jedan“. Dobra kampanja direktnog marketinga treba da se temelji na aktuелnoj i kvalitetnoj bazi podataka o postojećim i potencijalnim kupcima/klijentima, a snaga kampanje se mjeri parametrima njene efikasnosti, kao što su odziv i dalje akcije kupaca/klijenata. Tržišno orijentisane organizacije koje se bave direktnim marketingom znaju da on ima mnogo veći uticaj od obične prodaje proizvoda ili pružanja usluga, te ga posmatraju kao efektivno sredstvo za interakciju sa kupcima/klijentima/potrošačima i izgradnju dugoročnih odnosa s njima (Lapaas Digital Marketing Agency in Delhi, Indija <https://lapaas.com/marketing/>). Kako se direktni marketing obraća izuzetno usko segmentiranom auditorijumu na ciljnom tržištu lako ga je kontrolisati i po završetku aktivnosti evaluirati aktivnosti na individualnom ili korporativnom nivou.

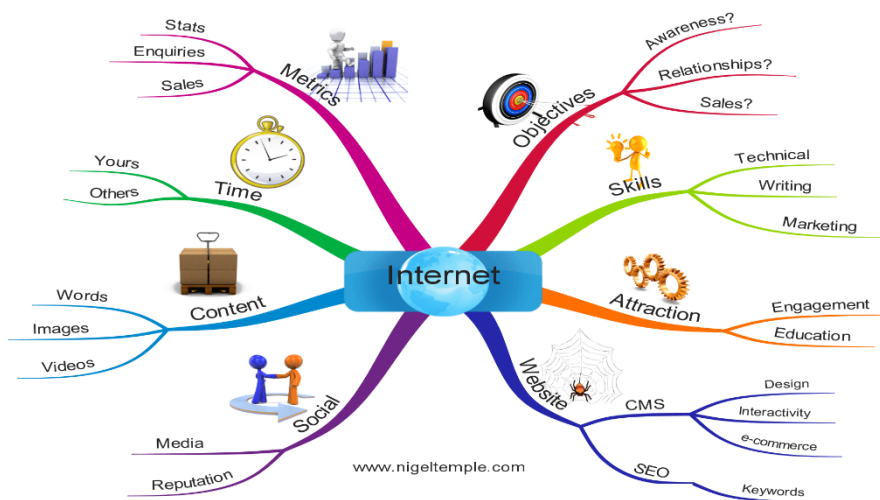
2. SAVREMENI KONCEPT DIREKTOG MARKETINGA

Za ilustraciju promjena koje se dešavaju u definisanju i primjeni savremenog koncepta marketinga, mogli bi se navesti i neki drugi termini kojima se njegovo osavremenjavanje adekvatno opisuje u inostranoj naučnoj i stručnoj literaturi: prijateljski marketing (Friendship Marketing), jedan na jedan marketing (One to One Marketing), lojalni marketing (Loyal Marketing), marketing zasnovan na lojalnosti (Loyalty-Based Marketing), trajni marketing (After Marketing), marketing orijentisan na izgradnju imidža (Image Marketing), povratni marketing (Reverse Marketing) i dr. (Stone, 2001). Možemo tako konstatovati da navedni pojmovi predstavljaju samo termine koji prije svega opisuju aktivnosti koje su generalno gledano, svrstane i sadržane u pojmu Relationship marketing – marketing odnosa.

U poslovnom odnosu sa kupcima/klijentima/potrošačima, direktni marketing sadrži širok spektar mogućnosti za lično obraćanje. Lično obraćanje potrošaču ili potencijalnom potrošaču obezbjeđuje njegovu pažnju, a u koliko postoji i najmanje interesovanje za proizvod/uslugu, velika je vjerovatnoća da će on tražiti neke dodatne informacije. Ova interakcija ima za cilj prije svega da inicira i izgradi profitabilne poslovne odnose. U ovoj dvosmjernoj interakciji možemo razlikovati tri komponente: dijalog, zadovoljenje potreba (rezultat komunikacije) i održavanje dijaloga. Prema raznim definicijama kojima se u određenom vremenu i na određenom prostoru djelovanja nastoje što popunije i sveobuhvatnije definisati sve aktivnosti direktnog marketinga potrebno je fokusirati se na sljedeće značajne elemente: Interaktivnost, mediji i oglašavanja, mjerljiv odgovor, transakcija

na bilo kojoj lokaciji, kupčeva narudžba. Direktni marketing je jedno od dinamičnijih područja savremenog marketinga kojeg karakteriše inovativnost i alternativno korištenje kanala direktnih medija za komuniciranje (telefon, pošta, štampa, televizija, internet...) za predstavljanje proizvoda izvan klasičnih prodavnica. Budućnost prodaje vezuje se za direktni marketing jer klasična prodaja odumire i zamjenjuje je telefonska prodaja i internet prodaja. Nemamo mogućnost otvoriti prodajno mjesto u nekoj čuvenoj aveniji, ali imamo mogućnost da direktno komuniciramo s kupcem koji se nalazi u bilo kojoj ulici svijeta. Tako su nove informacione i komunikacione tehnologije najjednostavnije rečeno, transformisale lokalno tržište u nacionalno, nacionalno u globalno uz pomoć internet marketinga kao što je ilustrovano na Slici 1 (Nigel Temple The Marketing Compass Ltd, <https://www.nigeltemple.com/2013/04/20/internet-marketing-strategy/>).

Savremni koncept direktnog marketinga je našao plodno tlo i u cjelodnevnom radnom vremenu u kome potrošač ima sve manje vremena za obilazak klasičnih prodavnica koje su sve bogatije ponudom često i sve složenijih proizvoda u kojoj je kompetentan savjet stručne osobe, gotovo nezamjenjiv.



Slika 1. Internet marketing

3. FUNKCIJE, CILJEVI I STRATEGIJA DIREKTOG MARKETINGA

Poslovna politika i ciljevi organizacije određuju ciljeve direktnog marketinga i njegovu funkciju. Funkcije direktnog marketinga su identične funkcijama promocije: upoznavanje sa proizvodom/uslugom, utiče na stavove edukacijom, pojačavanjem preferencija, otaklanjanjem nedoumica i predrasuda, daje podršku kupovini za zadovoljenje potreba i utiče na vrijeme kupovine, daje podršku u djelovanju ostalih instrumenata politike marketinga. Direktni marketing pored ovih funkcija indukuje neposrednu akciju sa ciljem prikupljanja upita, narudžbi i prodaju proizvoda/usluga.

Strateški faktori koji određuju upotrebu direktnog marketinga i njegovu prirodu djelovanja su: izbor proizvoda, definisanje ciljeva, izbor medija, modeliranje ponude, upotreba baze podataka, izbor metoda prodaje.

Izbor proizvoda u savremenom poslovanju nije od presudnog značaja, jer u praksi vlada mišljenje da se metode direktnog marketinga mogu koristiti prilikom prodaje različitih vrsta proizvoda ili kao pomoć u prodaji svih vrsta proizvoda/usluga. Danas se dragocijenosti i nakit visoke vrijednosti prodaje putem kataloga, elektronske komponente informatičke opreme se

prodaju putem telefona, što znači da cjenovna barijera vjerovatno više ne postoji na donjoj granici. Ponekad vlada mišljenje da samo neki specifični i unikatni proizvodi koji se ne mogu kupiti u maloprodajama, mogu se prodavati direktnim marketingom. Sam čin krajnje prodaje nije uvijek potrebno obaviti metodama i sredstvima direktnog marketinga, jer se on može koristiti samo za prikupljanje upita, a zatim slijedi lična prodaja.

Definisanje ciljeva vezano je za dva pristupa direktnog marketinga između kojih postoji velika razlika. Potrebno je prvo utvrditi da li je osnovni cilj prikupljanje narudžbi i prodaja ili je cilj stvaranje baze podataka i pretvaranje potencijalnih kupaca u kupce. Svakako, metodama direktnog marketinga se održavaju kontakti sa postojećim kupcima između prodajnih posjeta, te se ovaj vid komunikacije takodje smatra primarnim jer je i te kako u funkciji zadržavanja kupaca i njihove lojalnosti.

Izbor medija u službi direktnog marketinga za lansiranje određene ponude zavisi od niza faktora (prostor i vrijeme potrebno za prezentaciju ponude, potreba izalaganja i pokazivanja proizvoda, visina troškova, selekcija kupaca...). Najčeće izabrani medij u službi direktnog marketinga su: poštanske pošiljke, štampani materijal, telefon, radio i TV emisije, email, i dr.

Modeliranje ponude ima zadatak da kod potencijalnih kupaca izazove reakciju. Tako je i svrha svake kampanje i programa direktnog marketinga da izazove mjerljivu reakciju koja bi u konačnici rezultirala prodajom. Osnovni elementi dobre ponude su: jedinica prodaje, cijena, uslovi plaćanja, obaveza kupca (šta se od kupca očekuje), dostava i prevoz, garantni rok, dodate vrijednosti (specijalni aranžmani, besplatna proba, pokloni, nagradne igre...), period trajanja ponude. Kako je već ranije pomenuto, direktni marketing ne uključuje samo dobijanje odgovora već i prijem i obradu narudžbi, te kontrolu zaliha robe, servisne usluge i sl. što ni u kom slučaju nije manje važno za zadovoljstvo potrošača. Cilj ponude je da već svojim naslovom uspije privući pažnju čitaoca i zainteresovati ga da je pročita do kraja. Pored izbora medija jako je bitno posjedovati ažurnu bazu imena potencijalnih kupaca, kako bi ponuda „došla u prave ruke“. Stone Bob u svom djelu Uspješne metode direktnog marketinga iz 2001. godine konstatuje sljedeće elemente uspješnosti direktnog marketinga: Baza podataka sa imenima i podacima potencijalnih kupaca – 40%; ponuda – 30%; dizajn i sadržaj po 15%.

Upotreba baze podataka je segment koji ostale marketinške aktivnosti razlikuje od direktnog marketinga. Imperativ efikasnog direktnog marketinga je kvalitetna i ažurna baza podataka o kupcima i potencijalnim kupcima, njihovim navikama, vrsti proizvoda/usluga koje konzumiraju, učestalost kupovine. Posjedovanje ovakve baze podataka predstavlja snažno tajno oružje organizacije na tržištu (Kotler, 2008). Baza podataka o kupcima predstavlja organizovan listing sveobuhvatnih podataka o individualnim postojećim ili potencijalnim kupcima, koja je dostupna i upotrebljiva za potrebe marketinga kao što su stvaranje prednosti i kvalifikacija, prodaja proizvoda ili usluga, te održavanje odnosa sa kupcima. Svaka kompanija koja se želi baviti direktnim marketingom mora imati bazu podataka – liste kupaca. Baza podataka može biti vlastita ili pozajmljena (tuđa), nabavljena razmjennom ili preko brokera baza podataka. Bazu podataka nije jednostavno napraviti jer se u nju unose svi elementi praćenja kupaca pa do dodjeljivanja hijerarhijskog broja. Vrste podataka koje baza treba da sadrži prije svega zavisi od vrste tržišta i same djelatnosti kompanije. Posjedovanje kvalitetne i dobro razvijene baze podataka pomaže kompaniji, daje joj snagu u ostvarenju konkurentске prednosti, te može se postići mnogo veća preciznost prilikom plasmana na ciljno tržište.

Izbor metoda prodaje u direktnom marketingu je moguć od sljedećih i to: One short – jednokratna ponuda proizvoda u jednoj jedinoj transakciji - roba je naručena, isporučena, plaćena i transakcija je završena; U dva koraka – kupcu se dostavljaju tražene informacije na

njegov upit ili u kombinaciji sa ličnom prodajom se završava transakcija; Kataloška prodaja – karakteristična je za proizvode širokog asortimana proizvoda koji se nudi ciljnom tržištu i poziva potrošače da iz kataloga naprave izbor za kupovinu; Pretplata – se obično plaća unaprijed i vezana je za kontinuitet isporuke u određenom vremenskom periodu; Članstvo u klubu – se odnosi na kontinuirane isporuke proizvoda koji se šalju po automatizmu, gdje kupac ne mora uložiti veliki napor u slučaju otkazivanja, a plaća proizvod prilikom preuzimanja. Izbor adekvatnog metoda prodaje prije svega zavisi od same prirode proizvoda koji su predmet trgovanja, količine zalihe tih proizvoda, kompleksnosti informacija o proizvodima s kojima kupac mora biti upoznat prije nego se odluči na kupovinu.

Kada kompanija izvrši analizu okruženja, segmentaciju i izbor ciljnih tržišta tada pristupa formulisanju strategije direktnog marketinga. Osnovni elementi strategije direktnog marketinga su: proizvod, ponuda i pozicioniranje, kreiranje, koncipiranje i proizvodnja promotivnog materijala, izbor medija direktnog marketinga, isporuka – distribucija.

Velika prednost direktnog marketinga leži u činjenici da se elementi koji čine strategiju mogu testirati, kao što su proizvodi, karakteristike proizvoda, tema reklamnog teksta, cijene i sl. Prije otpočinjanja bilo kakve promotivne aktivnosti ili kampanje putem direktnog marketinga kompanija mora biti sigurna da može: brzo odgovoriti na zahtjeve za dodatnim informacijama, bez prolongiranja da ispuni narudžbu, da se ljubazno prilagođava i ako je potrebno koriguje u slučaju pojavljivanja nekog problema ili nesklada, te da ljubazno usluži kupca i ispostavi račun.

4. UPRAVLJANJE DIREKTNIM MARKETINGOM

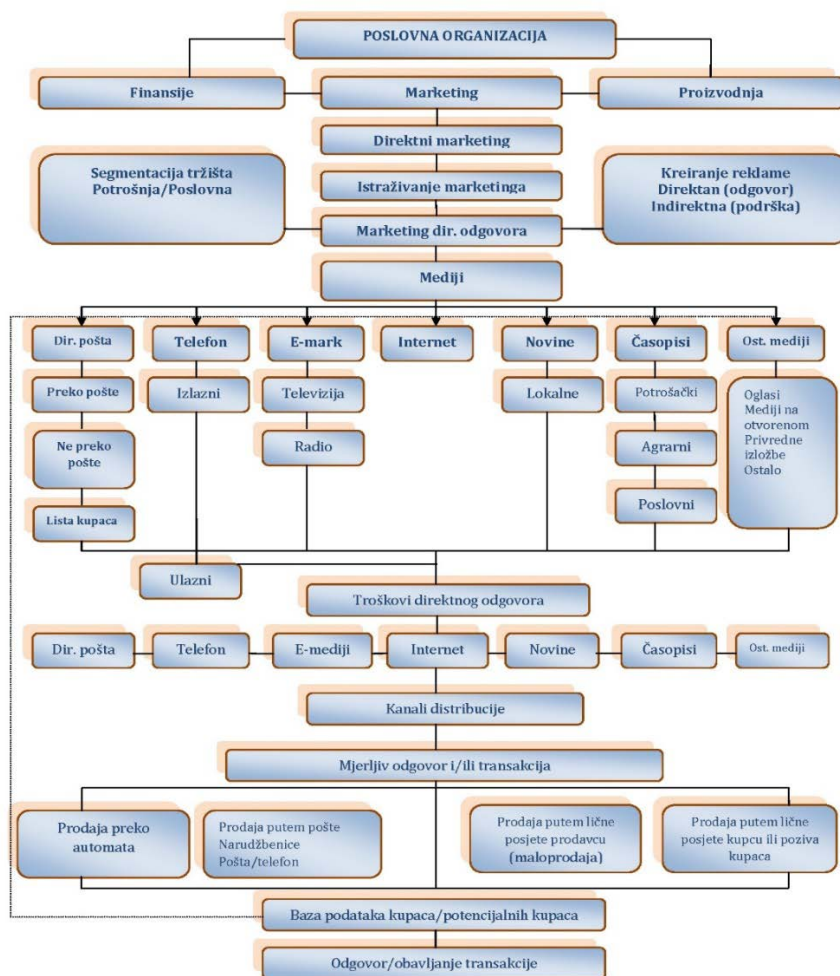
Marketing je prisutan svugdje i u otpočinjanju i implementaciji, ali i kontroli i reviziji poslovanja. Od marketinga se očekuje da blagovremeno uoči tržišne šanse, tržišno osmisli razvojne ciljeve, ukaže na implikacije pojedinih pravaca, metoda i tempa rasta kompanije, te da orijentiše poslovne funkcije, definiše marketing ciljeve i marketing strategiju programirajući marketinške aktivnosti (Gordon, 1998). Sinhronizovani razvoj interneta i proces globalizacije gotovo simultano utiču na poslovanje kompanije a internet i marketing stvaraju svoju neraskidivu vezu, kao što je prikazano na Slici 2. Odnos interneta i marketinga u vremenu koje je pred nama će biti mnogo složeniji jer se u njihovoj logici pristupa nalazi isti faktor, čovjek. Direktno korištenje tehnoloških prednosti internet mreže savršeno se uklapa u koncept direktnog marketinga kompanije koja mora da razumije sistem potreba kupaca/klijenata i da svoju marketing strategiju realizuje kroz interaktivnost sa njima. S toga je digitalna era stvorila tehnološke uslove, a internet kao medij otvorio prostor za djelovanje marketinga interaktivnog tipa usmjerenog na kupce/klijente/potrošače kao pojedince.



Slika 2. Online marketing – direktno korištenje internet mreže

Novi direktni marketing je savremeno vođen marketinški proces, kojeg omogućavaju baze podataka i primjena novih tehnologija koje marketinškim stručnjacima otvaraju mogućnost da testiraju, provode, mjere i pravilno modeliraju različite marketinške programe.

Direktni marketing koristi direktne kanale da bi stigao do kupca/klijenta/potrošača i isporučio mu proizvod/uslugu bez korištenja posrednika kao što je prikazano na Slici 3. Strateški pristup upravljanja direktnim marketingom podrazumijeva planiranje, organizovanje i kontrolu marketing planova koji sadrže marketing ciljeve i strateška rješenja za ostvarenje tih ciljeva.



Slika 3. Direktni marketing: redoslijed akcija prilagođeno po Kotleru

S toga su osnovne karakteristike direktnog marketinga obuhvataju: Interaktivni sistem marketinga – dvosmjerna komunikacija; mjerljiv odgovor – označava mogućnost postavljanja kvantitativno mjerljivih ciljeva; lokacija – direktni marketing ne precizira korištenje tačno određenoj medija, već je izbor vezan za potrebu lokacije koja treba biti obuhvaćena porukom; baze podataka (*engl.* Database Marketing) – kao esencijalni element i suštinsko oružje direktnog marketinga (Frederick, 1993).

5. BAZE PODATAKA DIREKTNOG MARKETINGA

Baze podataka direktnog marketinga predstavljaju liste kupaca/klijenata/potrošača sa različitim informacijama koje su modelirane i komponovane sa tačno određenim ciljem. Sve liste podataka ne mogu predstavljati i nisu baza podataka. Informacije za bazu podataka kompanija prikuplja tokom određenog vremena i ažurira ih sa podacima o izvršenim kupovinama te se tada dobija baza podataka sa izuzetnom vrijednošću. Stvaranje baze podataka zasnovano je na prikupljanju informacija o kupcima iz: evidencija kompanije, reakcija na unapređenje prodaje, garantnih listova, ponuda uzoraka pri čemu se zahtijeva od potrošača da daju svoje ime i druge osnovne podatke, upitak, razmjene podataka sa drugim kupcima, evidencija prodajne sile, obrazaca prijave za korištenje kreditnih ili kartica lojalnosti, žalbi, reakcija na prethodne aktivnosti direktnog marketinga i organizovanih događaja npr. degustacija. Baza se može vremenom dopunjavati ili dograđivati sa određenim karakteristikama potrošača te različitim sofisticiranim klasifikovanjem i kombinovanjem, kompanija dolazi do izuzetno moćnog sredstva koje će koristiti u svojoj poslovnoj politici i strategiji. Kompanija može koristiti vlasite i tuđe baze podataka koje se nalaze izvan posjeda kompanije koja ih koristi. Tako baze podataka možemo podijeliti u četiri različite grupe:

1. Response list – baze respodenata, predstavljaju liste koje su kreirane na osnovu ranijih odgovora kupaca/klijenata/potrošača i često se zovu liste narudžbi. Respodenti mogu biti i novi kupci, aktivni kupci a i bivši kupci. Svi oni su identifikovani prema njihovim određenim interesima i spremnošću da reaguju na ponudu ako su motivisani. U praksi se ove vrste listi obično kupuju od profesionalaca.

2. Compiled list - sakupljene ili kompilirane beze, nalaze svoju primjenu i značaj u kompanijama koje nemaju iskustva u direktnom marketingu. Informacije za ove baze podataka se obično uzimaju iz sljedećih izvora: liste registrovanih automobila, liste članova udruženja i asocijacija i sl.

3. Poslovne baze, obično sadrže naziv firme i osobe, opis, adresu, način plaćanja, vrijeme isporuke te neka ograničenja ako postoje.

4. Baze kompanije, kreirane u kompaniji postepeno za vlastitu upotrebu ali i sa određenim primarnim ciljem mogu biti važan izvor prihoda i profitni potencijal ako ih kompanija može razmijeniti, iznajmiti nekome ili prodati.

Marketing zasnovan na bazama podataka poredstavlja „elektronski ormar za kartoteku” koji sadrži listu imena, adrese, telefonske brojeve i podatke o životnom stilu i transakcijama postojećih i potencijalnih kupaca (Jober, 2006). Marketing zasnovan na bazama podataka ima ogroman potencijal, a uz korištenje kompjuterskih tehnologija pruža mogućnost prezentovanja informacija u pogodnom, pristupačnom i korisnom formatu.

6. ZAŠTITA PRIVATNOSTI I BEZBJEDNOST PODATAKA U DIREKTNOM MARKETINGU U BOSNI I HERCEGOVINI

Pravna regulativa u Bosni i Hercegovini koja se odnosi isključivo na direktni marketing ne postoji. Naša svakodnevica nam ukazuje na prisutnost direktnog marketinga u svim sferama poslovanja kompanije i života građana. Prosperitet i razvoj društvene zajednice od privrede, sporta, obrazovanja, nauke, kulture i ostalih područja, uslovljen je primjenom novih informacionih i komunikacionih tehnologija. Zbog svega što je do sada navedno o specifičnostima direktnog marketinga, njegovim karakteristikama, instrumentima, strategijama i samim procesom upravljanja lako je zaključiti da će se i u buduću uz korištenje sve savremenije tehnologije koja uz brojne prednosti ima i niz nedostataka vezanih prije svega

baš za pojavu nedopuštenog i zakonom u dobroj mjeri kažnjivog djelovanja. Kupci/klijenti/potrošači nekada su s pravom u bojazni i imaju strah od zloupotrebe njihovih ličnih podataka. Strah od prikupljenih podataka iz dana u dan se povećava iz razloga krađe identiteta, lažnih dojava o osvajanju nagrada, telefonskog uznemiravanja, te nuđenja netraženih proizvoda/usluga putem telefona, pošte, mail-a, jer je postala uobičajena praksa kompanija koje se bave telemarketingom.

U našoj zemlji ne postoji specifična pravna regulativa koja definiše ovu oblast, ali to nikako ne znači i nemogućnost podvođenja ove oblasti pod određene pravne norme koje reguliše Zakon o zaštiti ličnih podataka. Aktivnosti direktnog marketinga se temelje na osnovu date saglasnosti nosioca podataka u pisanoj formi i koja je potpisana od strane nosioca podataka. Problematiku indirektnog marketinga na neposredan način reguliše Preporuka Vijeća Evrope broj R8520, usvojena 20.10.1985. godine od strane Odbora ministara država članica. Prema ovoj Preporuci prvi uslov za provođenje direktnog marketinga je dobijanje relevantnog obima ličnih podataka na način da su lični podaci aktivnih i potencijalnih kupaca/klijenata/potrošača prikupljeni uz uslov dobijanja lično potpisane izjave ili saglasnosti o korištenju ličnih podataka. Ova izjava treba biti uključena i isključivo navedena prilikom prikupljanja podataka. U Preporuci se konstatuje da ako nosilac podataka nije dao saglasnost prezentacija proizvoda/usluge treba da bude u takvoj formi i na takav način da ne bi došlo do narušavanja privatnosti primaoca. Prijem marketinškog pisma, email-a sličnog sadržaja nikad neće kod primaoca izazvati oduševljenje, već će izazvati reakciju ogorčenosti i ljutnje, te pitanje, kako je i od koga taj pošiljalac došao do ličnih podataka? S toga prije davanja ličnih podataka potrebno je informisati se o onome ko prikuplja podatke, pa tek tada svaki pojedinac ima osnov za donošenje odluke hoće li i u kojoj mjeri nekome saopštiti svoje lične podatke.

Svaki pojedinac je posebno osjetljiv kad mu se traže i evidentiraju intimni podaci, te se nastoji zakonskim mjerama regulisati bezbjednost tih podataka, obavezati primaoca/korisnike podataka da se prema njima odnose s velikom pažnjom prilikom obrade, pohranjivanja i ažuriranja. Marketari pored osnovnih podataka kao što su ime i prezime, broj telefona, adresa stanovanja traže i koriste veoma često psihografska i demografska obilježja kupaca/klijenata/potrošača radi ciljnog plasiranja svojih poruka direktno pojedincima na određenom ciljnom tržištu za koje se pretpostavlja da bi mogli postati kupci proizvoda ili korisnici usluga (Duncan, 2001). Praktično gledano, podatak o adresi stanovanja marketaru daje sliku i navodi na zaključak u pogledu imovinskog stanja i načina života dotične osobe; podatak o vrsti časopisa koji se naručuje upućuje na neke životne navike, slobodne aktivnosti pa i stil života primaoca; na osnovu dosadašnjih kupovina moguće je predvidjeti koje će proizvode i usluge dotična osoba u buduću naručivati. Tako možemo izvući zaključak da postoji najmanje četiri razloga zašto bi kupci/klijenti/potrošači mogli biti ogorčeni na direktne marketare: strah od neodgovornog korištenja podataka, smetanje i nedopuštene djelatnosti, zagađenje životne sredine zbog bacanja promo materijala, napastovanje. Direktni marketing treba doznati i imati relevantne informacije i što više podataka o potencijalnim i sadašnjim kupcima i korisnicima usluga, njihovim željama, sklonostima, preferencijama, kako radi formiranja kvalitetne baze podataka tako i radi kreiranja uspješnih kampanja ciljnog marketinga – target marketing campaign.

7. ZAKLJUČAK

Aktuelne promjene u poslovnom okruženju ukazuju na to da je potrebno izvršiti promjene u marketing koncepciji, da bi se obezbijedilo poslovanje u skladu sa najnovijim poslovnim trendovima. Naime, umjesto orijentisanosti na zadovoljenje potreba

kupaca i izgrađivanje odnosa sa kupcima, baziranim na performansama proizvoda, treba izgrađivati odnose bazirane na lojalnosti. Odnosi sa kupcima bazirani na lojalnosti vode ka formiranju neke vrste partnerstva između konkretne organizacije i njenih kupaca, kojim se garantuje ostvarivanje dugoročnih rezultata, koje je moguće realizovati putem direktnog marketinga. S toga možemo zaključiti da direktni marketing ne predstavlja neki poseban oblik tržišno usmjerene poslovne politike kompanije već drugačiji način usmjeravanja komunikacionih aktivnosti sa pojedincem ili manjim ciljnim tržištem kupaca/klijenata/potrošača. Zahtjevi kupaca se razvijaju u smjeru stvaranja potrebe za individualnim dijalogom zbog svakodnevnog bombardovanja informacijama iz raznih izvora kojem su izloženi, troškovima prevoza kod samostalnog traženja najboljeg rješenja i svakako nedostatak slobodnog vremena. Ovdje do izražaja dolazi kontinuirana komunikacija u direktnim kontaktima sa kupcem/klijentom/potrošačem, te stvaranje dugoročnih odnosa utemeljenih na lojalnosti. Svakako osnovni cilj ove komunikacije je pružanje veće vrijednosti i poboljšanje kvaliteta njihovog života uz ostvarenje prodaje kao primarnog cilja kompanije. Pretpostavka dugoročnog i uspješnog poslovanja kompanije je kontinuirano usvajanje novih znanja i praksi, poštivanje zakonskih propisa, etičko ponašanje u odnosu sa kupcima/klijentima/potrošačima i interesima, poštovanje njihovih želja i zadovoljenje potreba, te uspostavljanje odgovornog, partnerskog i prijateljskog odnosa zasnovanog na međusobnom povjerenju. Kako bi zadobile povjerenje brojne kompanije obezbjeđuju zabranu ustupanja podataka svojih kupaca/klijenata/potrošača te im te podatke dostavljaju na uvid. S toga se sve više usvaja praksa dopuštenog marketinga (eng. Permission Marketing) kojom kompanija dobija saglasnost od svojih kupaca/klijenata/potrošača, da li žele da im se poštom, sms, telefonom, mailom, dostavljaju promotivne poruke ili materijali, te na taj način smanjilo nezadovoljstvo kod onog dijela kupaca/klijenata/potrošača koji ne žele uzmeniravanje. Svaka ozbiljna kompanija prisutna na tržištu trebala bi posebnu pažnju da posveti kreiranju politike zaštite privatnosti svojih kupaca/klijenata/potrošača.

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SUSTAINABLE ENTREPRENEURSHIP – A SOURCE OF COMPETITIVE ADVANTAGE

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Abstract: The aim of this research is to explore sustainable entrepreneurship and its crucial role in boosting competitive advantage. For this purpose, various sources and data related to sustainability awareness of generations and number of B Crops per country were analysed, including research and real-world examples to spotlight how sustainable entrepreneurship benefits businesses and increase their competitive advantage. As the result of this study, the company performance, innovation, market position were identified and how their relationships with stakeholders are affected. By uncovering the reasons behind these effects, we aim to offer useful insights for academics, businesspeople, and policymakers, helping everyone better grasp the impact of sustainability-focused entrepreneurship on today's business world. Hence, sustainable entrepreneurship can be a source of competitive advantage for businesses by attracting investors, reducing costs, increasing sales and gaining the consumers' loyalty.

Keywords: Apple Inc., brand image, competitive advantage, entrepreneurship, sustainability.

1. INTRODUCTION

In an era marked by escalating environmental concerns, expanding societal expectations, and intensifying global competition, the landscape of entrepreneurship is experiencing a profound transformation. The conventional type of business operation, primarily driven by profit maximization, is giving way to a new approach that connects economic prosperity with environmental concerns and social responsibility. This paradigm shift placed the concept of sustainable entrepreneurship to the forefront of contemporary business priorities.

Sustainable entrepreneurship represents a holistic approach to business innovation and value creation, where environmental, social, and economic dimensions are harmonized to foster long-term viability and resilience. It represents a starting point from the traditional entrepreneurship, going beyond the simple pursuit of financial gain to embrace a broader spectrum of objectives, including environmental conservation, social equity, and community empowerment. At its core, sustainable entrepreneurship seeks to combine the imperatives of profitability with the imperative of sustainability, recognizing the interdependence between business success and societal well-being.

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According to Weidinger Ch. (2014), “Sustainable entrepreneurship stands for a business driven concept of sustainability which focusses on increasing both social as well as business value - so called Shared Value” (Weidinger, 2014). Hence, sustainable entrepreneurship recognizes the interconnectedness of various stakeholders, including customers, employees, communities, and the environment. By fostering partnerships and collaborations, businesses can attract resources and create a meaningful impact and drive positive change.

2. THEORETICAL ANALYSIS OF SUSTAINABLE ENTREPRENEURSHIP

Sustainable entrepreneurship is a rapidly growing trend where businesses integrate environmental and social responsibility into their basic priorities, creating value not just for shareholders but also for the planet and society. This shift is driven by two key factors that are where both “Increased consumer interest” and “Changing business environment” are characterized by some specific features (Figure 1).

Consumers are more interested in eco-friendly products and services. This is because they care about the environment, ethics, and their health. Studies show that Millennials and Gen Z are especially likely to support sustainable brands, making them an important market force, displaying the highest consideration for sustainability, with 94% and 93% respectively, compared to 88% of Gen X shoppers and 77% of Baby Boomers (Isatou, 2023).

Firstly, there is a growing awareness of environmental issues, particularly concerning climate change, prompting individuals to seek out sustainable alternatives. Secondly, consumers are driven by ethical considerations, preferring to support brands that align with their social and environmental values. Lastly, the desire for healthier lifestyles intersects with sustainability, as people opt for natural and eco-friendly products, recognizing the benefits to both personal health and the environment. This convergence of environmental awareness, ethical considerations, and health concerns is shaping consumer behaviour and driving the demand for sustainable products and practices in the marketplace.

Businesses are realizing the benefits of sustainability, both financially and in terms of reputation. Businesses adopting sustainable practices can reap various benefits. Firstly, cost savings are achievable through initiatives such as waste reduction and energy efficiency, resulting in significant financial advantages. Additionally, cultivating sustainability fosters brand loyalty among environmentally conscious consumers, enhancing customer retention and expanding market share. Furthermore, companies with robust sustainability practices often attract socially responsible investors seeking to align their investments with ethical and environmental considerations.

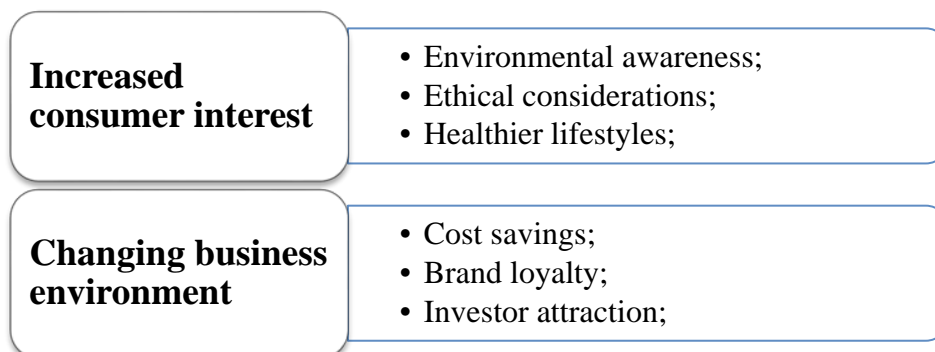


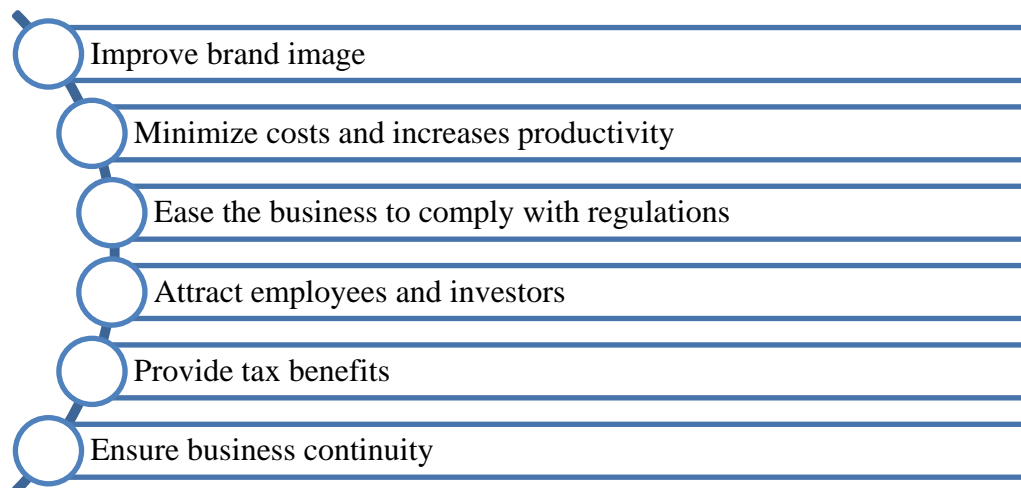
Figure 1. Driving factors of sustainable entrepreneurship

Source: Elaborated by the author

This convergence of consumer demand and business opportunity is powering the rise of sustainable entrepreneurship, leading to the creation of innovative products, services, and business models that are both profitable and responsible. As this trend continues to grow, we can expect a future with more sustainable and socially conscious businesses catering to the needs of a conscious consumer base.

Moreover, beyond its important ethical appeal, sustainable entrepreneurship is increasingly recognized as a potential source of competitive advantage in today's hypercompetitive marketplace. Enterprises that proactively integrate sustainability practices into their business models and operations stand to gain a multitude of benefits, from a powerful brand reputation and stakeholder trust to cost savings, innovation opportunities, and access to new markets.

By aligning their strategies with sustainable practices, these ventures not only mitigate risks associated with environmental and social disruptions but also capitalize on emerging market trends and consumer preferences by positioning themselves as leaders in their respective industries (Figure 2).



*Figure 2. Benefits of adopting a sustainable business approach
Source: Elaborated by author based on (Ghodasara, 2021)*

Consumers are increasingly becoming more eco-conscious and are more likely to support businesses that are seen as being sustainable. By adopting sustainable practices, businesses can improve their brand image and reputation, which can lead to increased sales and customer loyalty. Sustainable practices can often help businesses to reduce costs, such as by reducing energy and water consumption, and waste generation. They can also help to improve productivity, for example by creating a healthier and more engaged workforce.

Pursuing further, could be analysed different theoretical perspectives explaining the potential link between sustainability and competitive advantage, including:

- Resource-based view;
- Stakeholder theory;
- Porter's five forces (competitive rivalry, supplier power, buyer power, threat of substitution, threat of new entry).

The Resource-Based View (RBV) looks at how sustainable practices can give a company unique advantages. For instance, investing in sustainability might make a brand more trusted, help operations run better, or spark new ideas for products or managing the

supply chain. These sustainable advantages are valuable, rare, and hard for competitors to copy. So, businesses that use sustainability well can get ahead of their rivals. The RBV focuses on a company's own strengths and weaknesses. It shows how sustainability can create long-lasting competitive edges (Madhani, 2009).

According to stakeholder theory states that businesses are connected to different groups like employees, customers, investors, communities, and regulators. Using sustainable practices can help companies make these connections better. When businesses show they care about doing the right thing, they can attract and keep talented workers who care about ethics and sustainability. Also, investors and customers who care about sustainability might like to support businesses that share their values. As time goes on, having good relationships with stakeholders can build trust, loyalty, and support. This helps the company do well over the long term and gives it an edge over competitors (Wright, 2024).

Porter's Five Forces is a way to understand how competition works in an industry. Sustainability can change each of these forces and how companies compete. For example, using sustainable practices might help companies save money by using less energy or making less waste. This changes how expensive it is to do business in the industry. Sustainability can also make it less risky for companies when rules change or when there are environmental problems. This makes it harder for new companies to join the industry or for other products to replace theirs. Also, coming up with new, sustainable ideas can open up new chances to sell things to customers who want eco-friendly stuff. Overall, sustainability can affect how much companies fight each other, how much power suppliers and customers have, how likely it is for other products to replace theirs, and how easy it is for new companies to start up. This all affects how well a company does compared to others in the same industry (Gratton, 2024).

These theoretical perspectives provide different lenses through which to understand the potential link between sustainability and competitive advantage. By examining sustainability through the Resource-Based View, Stakeholder Theory, and Porter's Five Forces, businesses can develop strategic insights into how sustainable practices can drive long-term success and differentiation in the marketplace.

As environmental regulations become more stringent, businesses that have already adopted sustainable practices will be better positioned to comply. This can help to avoid fines and other penalties. Employees are increasingly looking to work for companies that are committed to sustainability. Investors are also increasingly looking to invest in sustainable businesses. By adopting sustainable practices, businesses can make themselves more attractive to both employees and investors.

In some countries, such as USA (Renewable energy production tax credit, Investment tax credit), UK (Enhanced capital allowance), Netherlands (SDE+) etc., there are tax benefits available for businesses that adopt sustainable practices (OECD, 2020). These benefits can help to reduce the cost of going green. By managing their environmental and social impacts, businesses can help to ensure their long-term success. This is because sustainable businesses are less likely to be disrupted by changes in regulations, resource availability, or customer preferences. Overall, the figure shows that there are a number of significant benefits to be gained from adopting a sustainable business approach.

In this framework, could be analysed the sustainability power of businesses all over the world regarding the countries' number of B Corporations that are certified by B Lab for their social impact. To attain certification, a company needs to fulfill the following criteria:

- Showcase commendable social and environmental practices by attaining a B Impact Assessment score of 80 or higher and successfully passing the risk evaluation.

- Multinational corporations are additionally required to adhere to basic standard requirements. Formalize their commitment legally by modifying their corporate governance framework to ensure accountability to all stakeholders, beyond just shareholders.
- Demonstrate transparency by permitting the disclosure of their performance data evaluated against B Lab's standards, which is accessible to the public via their B Corp profile on B Lab's website.

As of February 2024, there are about 8 250 certified B Corporations across 162 industries in 96 countries (About B Corp, 2023) (Table 1).

Table 1. Top 10 countries by number of B Corporations

<i>Country</i>	USA	UK	Canada	Australia	Brazil	France	Chile	Italy	Argentina	Nether-lands
<i>No. of B-Corps</i>	1343	454	299	279	174	141	131	119	112	108

Source: Elaborated by author based on (Countries with sustainable practices, 2023)

According to the data of top 10 countries by number of B Corporation, we notice a concentration of about 40% of total B Corps in the top 10 countries, majority of them being developed nations. This suggests a higher awareness and adoption of B Corp certification in these countries, potentially due to factors like:

- Stronger economies and disposable income for consumers to prioritize social and environmental impact;
- More established infrastructure and support systems for sustainable businesses;

While the top 10 hold a significant share, countries like Brazil, Chile, and Argentina showcase a growing presence of B Corps in emerging markets, indicating a potential for future growth and wider adoption in these regions. An important aspect that should be taken into consideration is the fact that USA owns the largest number of such enterprises with a major gap compared to other nations. This fact determines their environmental interest and social responsibility and Apple company is an eloquent epitome of business that is worthwhile to be analysed in this context.

3. STUDY CASE: APPLE'S SUSTAINABILITY

Analysing Apple Inc. as a sustainable company that has gained a competitive advantage through sustainability requires an examination of various aspects of its operations and practices such as:

- Environmental initiatives;
- Product design and materials used;
- Supply chain management;
- Brand reputation and market position.

Apple has made significant strides in reducing its environmental impact. It has committed to using 100% renewable energy for its global operations, including offices, retail stores, and data centres. This initiative not only reduces carbon emissions but also insulates the company from energy price volatility, providing a competitive advantage. The company has implemented innovative recycling programs, such as the Apple Trade-In program, which encourages customers to return old devices for recycling or credit toward new purchases. This initiative helps reduce electronic waste and fosters customer loyalty by promoting sustainable consumption.

Apple prioritizes sustainability in product design, incorporating recycled materials and minimizing the use of hazardous substances. For example, it introduced recycled aluminium in the manufacturing of certain products, reducing reliance on virgin materials. The company's focus on durability and longevity extends product lifecycles, reducing the need for frequent upgrades and contributing to a circular economy model. This approach not only reduces environmental impact but also enhances brand reputation and customer satisfaction.

Apple works closely with suppliers to improve environmental and labor practices throughout its supply chain. It has set ambitious goals to transition suppliers to renewable energy and improve worker conditions. By promoting sustainability among its suppliers, Apple mitigates risks related to supply chain disruptions, regulatory compliance, and reputational damage. This proactive approach strengthens the resilience of its supply chain and enhances competitiveness.

Apple's commitment to sustainability has bolstered its brand reputation and market position. Consumers increasingly value companies that demonstrate environmental stewardship and social responsibility. By aligning its brand with sustainability, Apple attracts environmentally conscious consumers and retains loyal customers who prioritize ethical considerations. This brand loyalty translates into a competitive advantage, driving sales and market share growth.

The main features of its policy adopted could be observed in the Figure 3 where is presented by data their durable approach that already registered significant result or will, accordingly, in the close future.

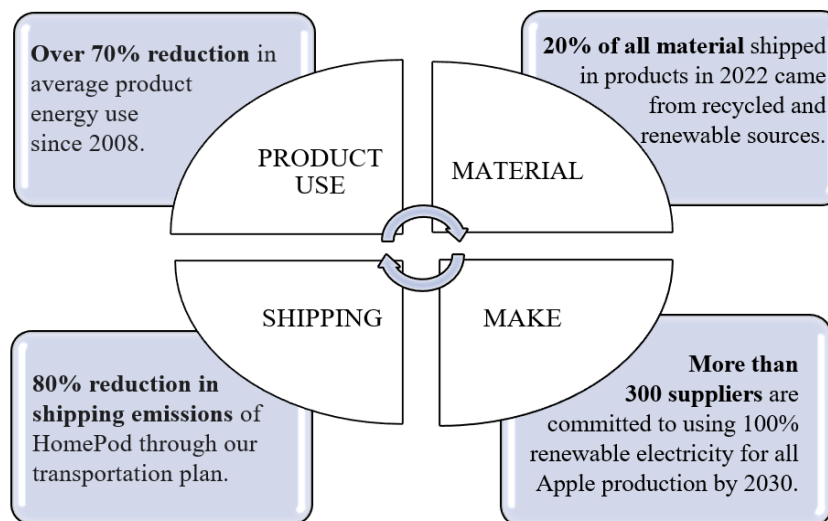


Figure 3. Outcomes of Apple's sustainability efforts
Source: Elaborated by the author based on (Inc., 2023)

Overall, Apple's strategic focus on sustainability has not only reduced its environmental footprint but also positioned the company as a leader in corporate responsibility. By integrating sustainability into its business model and operations, Apple has gained a competitive advantage by enhancing brand reputation, reducing costs, mitigating risks, and fostering customer loyalty.

Thus, corporations like Apple are under immense analysis to develop more widely sustainable practices. This idea extends beyond mere rhetoric to tangible actions that resonate with consumers and regulators alike. A fundamental principle in assessing Apple's efficacy in this field is the SWOT analysis, which examines its internal strengths and weaknesses alongside external opportunities and threats that are framed in Figure 4.

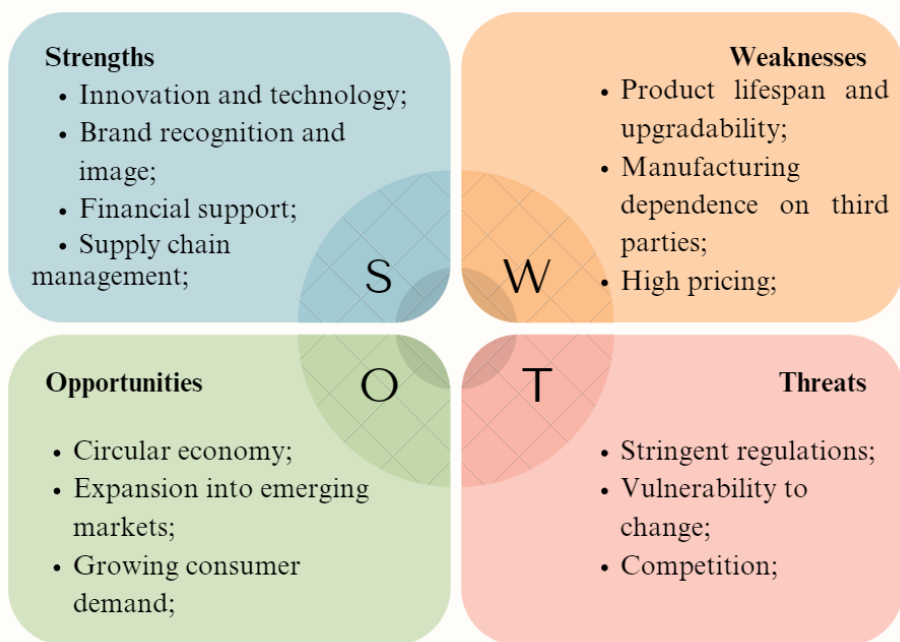


Figure 4. Swot Analysis of Apple's sustainability approach
Source: Elaborated by the author

Apple's strengths lie in its continuous pursuit of innovation and technology, evident in its robust research and development capabilities. This result in facilitates of integrating resource-efficient solutions and clean energy practices throughout its products and operations. Additionally, Apple's brand recognition and image contribute significantly to its sustainability endeavours, attracting environmentally conscious consumers and fortifying its reputation as an industry leader. Furthermore, the company's substantial financial resources afford it the luxury of investing substantially in sustainability initiatives, spanning research, technology development, and partnerships with suppliers.

However, Apple faces challenges as well, notably in terms of product lifespan and upgradability. Critics contend that its products have shorter lifespans, contributing to increased electronic waste generation. Moreover, the limited upgradability of components exacerbates this issue by encouraging frequent product replacements. Another vulnerability lies in Apple's reliance on third-party manufacturers for its products. While it imposes sustainability standards on its suppliers, enforcing them entirely rests on the compliance of these third parties, introducing an element of risk. Additionally, the premium pricing of Apple products may deter some consumers, limiting the broader impact of its sustainability features.

Despite these weaknesses, Apple can leverage numerous opportunities to enhance its sustainability efforts. Embracing a circular economy model presents a significant opportunity, emphasizing product design for longevity, repairability, and efficient recycling processes. Furthermore, advancements in clean energy technologies, recycling methods, and sustainable materials offer avenues for Apple to further bolster its environmental performance and gain a competitive edge. Moreover, the growing consumer demand for sustainable products and services provide fertile ground for Apple to leverage its sustainability initiatives as a key differentiator and attract environmentally conscious consumers.

Nevertheless, Apple must remain vigilant in the face of threats that could undermine its sustainability agenda. Increasingly stringent environmental regulations worldwide pose a significant challenge, potentially imposing additional costs and compliance burdens on the company. Moreover, any environmental controversies or shortcomings in its sustainability

efforts could tarnish Apple's brand image and reputation, leading to negative publicity. Additionally, competition from rivals adopting robust and transparent sustainability practices threatens Apple's market share, underscoring the importance of continuous improvement in this domain.

4. CONCLUSION&RECOMMENDATIONS

Therefore, through a comprehensive SWOT analysis, Apple can gain valuable insights into its sustainability approach. By capitalizing on its strengths, addressing its weaknesses, exploiting opportunities, and mitigating threats, Apple can chart a course towards a more sustainable future while maintaining its position as a global innovator and industry leader.

Companies offer compelling evidence that sustainable entrepreneurship is not just a fad, but a viable path to long-term success. By authentically integrating sustainability into their strategies, these companies have gained a competitive edge and set a positive example for others to follow. As consumer demand for sustainable products and services continues to grow, we can expect even more businesses to embrace this approach, shaping a more responsible and sustainable future even if implementing sustainable practices requires investments and potential trade-offs in the short term and measuring the precise impact of sustainability on competitive advantage can be challenging.

Their success stems from authentically integrating sustainability into their core values and operations, not just using it as marketing greenwashing. The benefits go beyond environmental impact, encompassing cost savings, talent attraction, investor relations, and risk mitigation.

Sustainability is no longer a niche concern but a critical factor for businesses seeking long-term success. Consumers are increasingly demanding eco-friendly products and services, while regulations and stakeholder expectations are evolving to prioritize environmental and social responsibility.

Adopting sustainable practices can provide businesses with numerous benefits, including cost reduction, enhanced brand reputation, improved customer loyalty, access to new markets, and mitigation of risks associated with environmental and social disruptions. By strategically integrating sustainability into their core operations, businesses can differentiate themselves from competitors and gain a significant edge in the marketplace.

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CIRCULAR SUPPLY CHAIN STRATEGY: INTEGRATING CIRCULAR ECONOMY AND STRATEGIC MANAGEMENT

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Abstract: This study explores the integration of strategic management frameworks within the transition to circular supply chain models, a crucial evolution for achieving sustainability in modern business practices. Given the pressing need for organizations to adapt to environmental challenges while maintaining economic viability, this paper investigates how strategic management principles can facilitate the adoption of circular economy practices in supply chain operations. Utilizing a comprehensive methodology that combines qualitative and quantitative data analysis, the research identifies key strategies that enable organizations to effectively redesign their supply chains for circularity. The results reveal the significant impact of strategic management on enhancing supply chain resilience, reducing environmental footprint, and fostering innovation. Based on these findings, the study offers actionable guidelines for businesses seeking to implement circular supply chain models, highlighting the role of strategic decision-making in overcoming barriers to circularity. Furthermore, the paper discusses the broader implications of these strategies for the field of supply chain management, suggesting avenues for future research. Through its analysis, the study contributes valuable insights into the synergies between strategic management and circular economy principles, underscoring their importance in driving sustainable business transformations.

Keywords: strategic management, circular economy, supply chain resilience, sustainable supply chains, innovation.

1. INTRODUCTION

Strategic management, with its focus on long-term planning, resource allocation, and adaptation to changing environments, provides a robust framework for embedding circular economy principles into the core operations of supply chains. By adopting a strategic perspective, businesses can better identify opportunities for circularity, mitigate risks

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associated with supply chain disruptions, and foster a culture of innovation and sustainability (Akyuz & Gursay, 2020). This paper aims to explore these dynamics, offering insights into how strategic management practices can be leveraged to drive the successful implementation of circular supply chain models.

The transition towards circular supply chains represents not just an environmental imperative but a strategic opportunity for businesses seeking to innovate, reduce waste, and create value from the reuse and recycling of materials. Despite the apparent benefits, the journey towards circularity is fraught with challenges, ranging from operational adjustments to the need for a paradigm shift in organizational culture and mindset. It is within this context that strategic management becomes crucial, offering the tools, methodologies, and leadership approaches necessary to navigate the complexities of this transition (Lviv Polytechnic National University et al., 2022).

The need to operate sustainably and effectively has never been greater in today's business landscape. The concept of the circular economy is emerging as a beacon for innovation and sustainability, taking into account growing concerns about the environment and increasing demands to act responsibly in business. The transformation of supply chain management, which has traditionally been based on a linear model of consumption, into frameworks that promote regeneration, renewal and resilience is at the heart of this paradigm shift (Aluchna & Rok, 2019). This paper delves into the strategic integration of circular economy principles within supply chain management, highlighting the pivotal role of strategic management in facilitating this transition.

Through a comprehensive analysis of current trends, case studies, and theoretical frameworks, this introduction sets the stage for a detailed examination of the synergies between strategic management and circular economy practices in supply chains. It underscores the urgency of this research in light of global environmental challenges and the pressing need for businesses to adopt more sustainable practices. The following sections will delve deeper into the methodology, results, and practical implications of this study, aiming to contribute valuable perspectives to the discourse on sustainable supply chain management.

2. METHODOLOGY

2.1. The subject and the problem of research

In structuring the methodology for our exploration into the strategic integration of circular economy principles within supply chains, we first delineate the core subject and problem, identifying the critical gap between current linear models and the potential for circular, sustainable systems. This foundation leads us to define our research goal. Guided by our central research question – “How can strategic management practices facilitate the integration of circular economy principles into supply chain operations?”

The research is centered on the pivotal role of strategic management in embedding circular economy principles into supply chain operations, aimed at transitioning from linear to circular, sustainable models. Despite the pressing need for such transformation to enhance environmental sustainability and operational resilience, organizations face significant barriers. The problem lies in the lack of a clear strategic framework to guide this complex transition, necessitating a deep dive into how strategic management practices can bridge this gap.

2.2. Research goal

This research is designed to clarify the strategic management processes that allow for efficient integration of circular economy practice in supply chain management. The study will aim at identifying and analysing these Strategic Practices, with a view to helping organisations overcome the challenges associated with transition from an industry model of circular supply chains in order to contribute to both environmental sustainability and business resilience.

2.3. Research question

This study is driven by the primary research question:: "How can strategic management practices facilitate the integration of circular economy principles into supply chain operations to achieve sustainability and resilience?" This question focuses the research on uncovering the strategic decisions, actions, and frameworks necessary for the successful adoption of circular economy models in supply chains.

2.4. Research method

This research constitutes a theoretical approach wherein conclusions are derived from the examination of previously conducted studies. It involves considering various methodologies employed by other researchers and analyzing their findings to establish overarching conclusions.

3. RESULTS

3.1. Qualities results

Strategic management within supply chains in the context of a circular economy involves the deliberate and coordinated action of businesses to redesign the core aspects of their supply chains. It emphasizes a transition from linear, end-of-life product disposition to a model where value creation is circular and regenerative (Singh, 2022).

Strategic management requires a holistic view of the supply chain, understanding not only the flow of materials and products, but also the flow of information and financial flows associated with physical products. This means the design of systems that facilitate reverse logistics needed to return, refurbish, repair or recycle products in a circular framework (De Angelis, Howard & Miemczyk, 2018).

The role of strategic management extends to the procurement of sustainable materials and ensuring that all stages of the supply chain adhere to circular principles. This could include the selection of suppliers who can provide materials that are recyclable or reused, promoting partnerships with companies offering recycling services and investing in technology to allow material flows worldwide (Aminoff & Kettunen, 2016).

Strategic management of the supply chain takes into account lifecycle impacts for products and services, from raw materials procurement to endoflife stages. This requires an in depth analysis of the impacts on the environment, society and economy at all stages of product life cycle with a view to developing strategies for minimising adverse effects (Khaoula et al., 2012).

Supply chain strategists must also foster innovation and adaptability within the organization to respond to the evolving landscapes of regulations, market demands, and

technological advancements. They must plan for long-term sustainability while also ensuring economic viability and competitiveness in the market (Artsiomchyk & Zhivitskaya, 2015).

The circular economy is a model of production and consumption that encourages the sharing, leasing, reusing, repairing, refurbishing, and recycling of existing materials and products as long as possible. In this model, the life cycle of products is extended, and the concept of 'waste' is transformed into a 'resource' to be used again in the production cycle, rather than being disposed of as waste. This approach is inherently regenerative by design and contrasts sharply with the traditional linear economy, which follows a 'take-make-dispose' model of production (Mao et al., 2018).

Strategic implementation of the circular economy within supply chains requires a systemic shift across many aspects of business operation, from product design and material sourcing to business strategy and innovation. It calls for a rethinking of relationships with consumers and a redesign of the way resources are utilized to create products and services (Guevara-Rivera, Osorno-Hinojosa & Zaldivar-Carrillo, 2020).

Strategic benefits of implementing circular supply chain are many. Circular supply chains minimize the need for new raw materials, thereby reducing the environmental impact associated with resource extraction, such as habitat destruction, soil degradation, and water pollution. Circular models prioritize the reuse and recycling of materials, drastically cutting the volume of waste sent to landfills or incinerated. This not only conserves resources but also reduces pollution and the release of harmful chemicals into the environment (Pravin, 2021).

Other than environmental benefits there are plenty of economic benefits too for incorporating circular supply chain. Circular supply chains can lead to significant cost savings through more efficient use of materials and reduced waste management expenses. Companies can also save by designing products with longer lifespans and by using recycled materials, which are often less expensive than virgin materials. The circular economy opens up opportunities for new business models, such as product-as-a-service, where companies retain ownership of the product and lease it to customers. This can create steady revenue streams from the same physical assets and encourage customer loyalty (De Angelis et al., 2018).

Companies that adopt circular principles can differentiate themselves in the market, appealing to increasingly sustainability-conscious consumers and businesses. This can lead to increased market share and higher profitability (Lacy & Rutqvist, 2015).

Results of strategic implementation of circular supply chain and general benefits of circular economy can be seen within boundaries of social benefits too. Implementing circular practices often requires new roles and skills, from product design and repair to materials recovery and recycling. This can lead to the creation of jobs across a range of sectors. Circular supply chain initiatives often involve local communities, for example, through take-back schemes or local recycling programs. This can strengthen community ties and support local economies. Circular business models, such as product sharing or leasing, can make high-quality products more accessible to a broader range of people, promoting equity and social inclusion (Mandych et al., 2023).

Unfortunately there are many barriers for implementing circular economy within strategic management framework. Transitioning to a circular supply chain model presents a set of unique challenges and barriers. Understanding these obstacles is crucial for developing effective strategies to overcome them. Here's an in-depth look at the common barriers to circular transition. Transitioning to circular models often requires substantial upfront investment in new technologies, infrastructure, and systems for collecting, processing, and recycling materials. Businesses may be hesitant to make these investments due to uncertainties about the return on investment, particularly in the short term (Kumar, Singh, & Kumar, 2021).

Inadequate recycling and recovery infrastructure can limit the effectiveness of circular initiatives, making it difficult to process and reuse materials. The absence of efficient logistics networks for the return of used products and materials can also hinder the transition. Varying and sometimes conflicting regulations across regions can complicate compliance for companies operating in multiple markets. The absence of regulatory incentives for circular economy practices can slow down the adoption of such models. The current limitations of recycling technologies can make it difficult to recover certain materials or ensure the quality of recycled inputs. There may also be a lack of technologies and tools that enable the design of products for easy disassembly, repair, and recycling (Ozkan-Ozen, Kazancoglu, & Kumar Mangla, 2020).

Although there are many barriers for implementing circular economy there are some solutions. Focus on research and development to innovate new materials, processes, and technologies that facilitate circularity, such as advanced recycling techniques and materials designed for easier disassembly or utilizing digital technologies like IoT, blockchain, and AI to enhance traceability, improve supply chain transparency, and optimize resource use (Rodchenko & Prus, 2023).

Good way of overcoming barriers is forging partnerships with suppliers, customers, and even competitors to share knowledge, resources, and technologies that support circular practices or collaborating with waste management and recycling firms to develop efficient systems for material recovery and reuse (Araujo Galvão et al., 2018).

Employees play crucial role in implementing circular economy skills and culture within an organization. Implement training programs to equip employees with the knowledge and skills required for circular economy practices. Foster a culture that embraces innovation, sustainability, and flexibility, encouraging employees at all levels to contribute ideas for enhancing circularity (García & Rivas, 2022).

Consumers must be aware of benefits and embrace this idea. In order to achieve it organizations can Launch campaigns to educate consumers about the benefits of circular products and how to participate in circular systems (e.g., product return and recycling programs) and Conduct market research to understand consumer preferences and demand for circular products, adjusting product offerings accordingly (Boyer, Hunka, & Whalen, 2021).

3.2. Model of circular supply chain strategy

The model of circular supply chain strategy present on Figure 1 visually represents the complex interplay between defining the circular economy, strategic management within supply chains, and the transition towards circularity, including the feedback processes inherent to this transition.

At the heart of the model is the “Circular Economy”, depicted as both the foundation and the goal of the transition process. It is the driving concept that influences all other elements within the system.

Defining the circular economy: This segment breaks down the circular economy into its fundamental components: sustainable resource management, waste reduction, economic resilience, social well-being, and consumer engagement. These represent the key principles and objectives that guide the practices and strategic decisions aimed at creating a more sustainable, waste-free economy that values resource optimization and social equity.

Role of strategic management in circular supply chain transition: The model underscores strategic management as the framework guiding the transition towards a circular supply chain. This includes vision setting, leadership, risk management, and performance measurement. Each of these aspects is critical to navigating the complexities of adopting

circular economy principles and ensuring that the supply chain aligns with these broader sustainability goals.

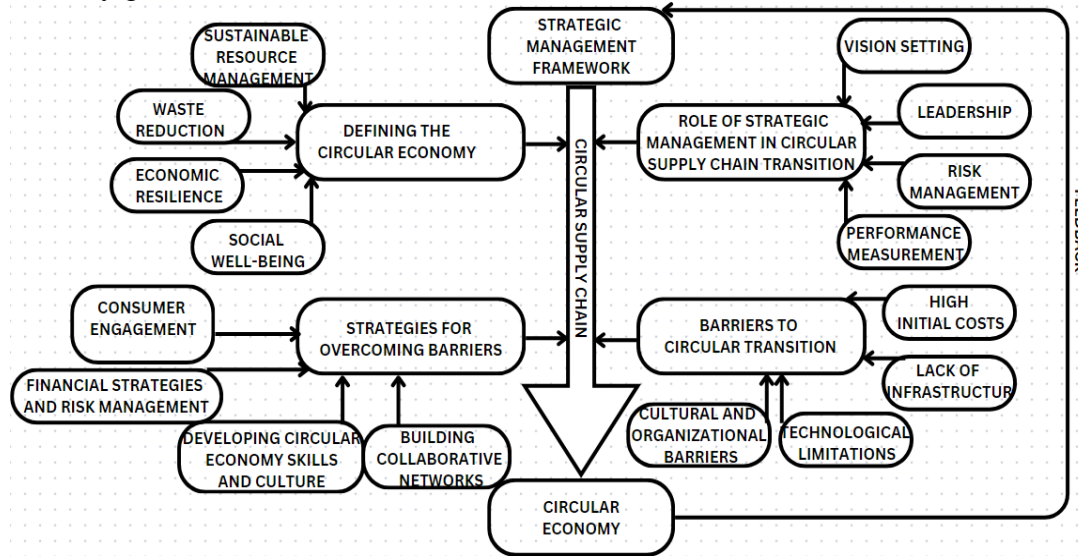


Figure 1. Model of circular supply chain strategy

Barriers to circular transition: This portion of the model identifies the main obstacles encountered when shifting to a circular model, such as cultural and organizational barriers, technological limitations, high initial costs, and lack of infrastructure. These barriers must be recognized and addressed for a successful transition.

Strategies for overcoming barriers: To navigate the transition, specific strategies are essential. Developing circular economy skills and culture and building collaborative networks are two central strategies depicted. These are about enhancing internal capabilities and fostering external partnerships, which are crucial for overcoming the barriers identified.

Feedback loop: The model incorporates a feedback loop, indicating that the transition to a circular economy is not linear but iterative. As strategies are implemented and barriers are overcome, lessons learned feed back into the system, informing adjustments to the vision and strategic management framework. This feedback loop ensures continuous learning and improvement, a hallmark of dynamic and resilient systems.

Overall, the model offers a structured approach to understanding the journey towards a circular economy within supply chains, highlighting the vital role of strategic management and the continuous, cyclical nature of this transformative process.

4. DISCUSSION

4.1. Guidelines and recommendations

Based on the reviewed literature, qualitative analysis and model we are providing following guidelines for implementing and innovating supply chain in circular economy within strategic management framework:

- Establish clear sustainability goals: Organizations must set precise and measurable goals for sustainability that align with the principles of the circular economy, including targets for waste reduction, resource efficiency, and material recyclability.

- Foster leadership commitment: Executives and managers across all levels should demonstrate a clear commitment to circular strategies, ensuring that circular economy principles are incorporated into the strategic decision-making processes.
- Promote inter-departmental collaboration: Encourage collaboration between different departments such as R&D, operations, and marketing to ensure a holistic implementation of circular supply chain practices that are cohesive across all units.
- Adopt circular design principles: Incorporate circular design principles into product development, emphasizing modularity, durability, and end-of-life recyclability to facilitate easy refurbishment, disassembly, and material recovery.
- Develop circular skills and culture: Invest in training programs to cultivate a workforce adept in circular economy practices and create a company culture that incentivizes innovation and sustainability.
- Implement efficient reverse logistics: Develop or enhance reverse logistics capabilities to support the return flow of products for reuse, remanufacturing or recycling.
- Engage with stakeholders: Maintain an open dialogue with suppliers, consumers, and waste management entities to build a supply chain that is transparent, efficient, and adaptable to circular practices.
- Monitor performance and impact: Track the progress of implemented circular strategies through well-defined KPIs and report these impacts in sustainability reports to stakeholders.

Following recommendations can be made:

- Leverage digital tools for supply chain transparency: Utilize technologies such as IoT, AI, and blockchain to monitor the flow of materials and products, ensuring transparency and enabling better decision-making.
- Build resilience into supply chain design: Integrate flexibility into the supply chain to anticipate disruptions and adapt quickly, enhancing the system's overall resilience.
- Pilot circular initiatives before full rollout: Test circular initiatives on a small scale to gauge effectiveness and make necessary adjustments before scaling up.
- Create consumer awareness campaigns: Educate consumers about the benefits and importance of circular products and initiatives to drive demand and support for circular economy models.
- Engage in policy advocacy: Participate in policy discussions and development to influence and create a regulatory environment that supports and promotes circular economy practices.
- Pursue continuous improvement: Regularly review and improve circular strategies based on performance data, stakeholder feedback, and evolving best practices in the field.
- Collaborate across industries: Engage in cross-industry collaborations to develop broader systemic solutions that facilitate circularity beyond individual organizational capacities.

By adhering to these guidelines and embracing these recommendations, organizations can effectively navigate the complexities of the circular economy transition, unlocking not just environmental benefits but also creating economic value and social goodwill.

5. CONCLUSION

In conclusion, the exploration of strategic management within the context of circular supply chain models has revealed it as a pivotal factor for catalysing the transition towards a circular economy. This paper has articulated the importance of strategic management in identifying and capitalizing on opportunities for circularity while concurrently mitigating risks and navigating the challenges inherent in such a transformative process.

The barriers to the transition, such as high initial costs, lack of infrastructure, and technological limitations, are substantial yet not insurmountable. The strategies outlined within this paper, including investment in research and development, fostering collaborative networks, and prioritizing consumer education, offer a roadmap for overcoming these obstacles.

Implementing these strategies enables organizations to create supply chains that are resilient, sustainable, and aligned with the broader objectives of environmental stewardship and social well-being. Moreover, by embracing continuous learning and feedback mechanisms, companies can ensure that their supply chains evolve to meet the changing demands of the market and the regulatory landscape.

The journey towards a circular supply chain is undoubtedly complex, requiring a fundamental shift in organizational culture and mindset. However, the potential rewards - economic efficiency, environmental integrity, and societal benefit- make this pursuit not only a strategic imperative but a moral one as well.

As businesses look to the future, it is clear that the principles of the circular economy will increasingly define the parameters of competitive advantage and corporate success. This paper contributes to the burgeoning discourse on sustainable supply chain management and offers a foundation upon which future research can build, seeking ever more innovative and effective pathways to circularity.

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ECOLOGICAL FOOTPRINT IN A FUNCTION OF SUSTAINABLE DEVELOPMENT

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Abstract: One of the major and currently relevant global challenge that requires an international level response is ecological footprint. Achieving sustainable development, especially in today's turbulent environment, demands the attainment of key political goals and the implementation of social changes on a global scale. Therefore, the goal of this study is to analyze the impact of ecological footprint on the individual level, and to assess the extent to which the population is aware of the concept of ecological footprint as means of reducing consumption, as well as how much attention people actually pay to ecology itself. The research was conducted through surveys, and the data was analyzed using statistical methods. The results obtained in this study can serve as a starting point for a deeper analysis of the influence of numerous factors on the ecological footprint.

Keywords: ecological footprint, sustainable development, population, environment.

EKOLOŠKI OTISAK U FUNKCIJI ODRŽIVOG RAZVOJA

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Izvod: Jedan od većih i trenutno aktuelnih globalnih izazova koji iziskuje odgovor na međunarodnom nivou jeste ekološki otisak, poznat kao ekološki footprint. Da bi ostvarenje održivog razvoja bilo moguće pogotovo danas u turbulentnom okruženju, ono zahteva postizanje ključnih političkih ciljeva i sprovođenje društvenih promena na globalnom nivou. Stoga, cilj rada je da se izvrši analiza uticaja ekološkog otiska na nivou pojedinca i da se sagleda koliko je stanovništvo upućeno u pojam ekološkog otiska kao sredstva za redukovanje potrošnje i koliko zapravo ljudi obraćaju pažnje na samu ekologiju. Istraživanje je sprovedeno putem anketiranja čiji su podaci obrađeni primenom statističkih metoda. Rezultati dobijeni u ovom istraživanju mogu poslužiti kao polazna osnova za dublju analizu uticaja brojnih faktora na ekološki otisak.

Ključne reči: ekološki otisak, održivi razvoj, stanovništvo, životna sredina.

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1. UVOD

Ekološki otisak je metodološki alat za kvantitativno izračunavanje potrošnje prirodnih resursa i generisanje otpada od strane ljudske aktivnosti. Koncipiran je početkom devedesetih godina na Univerzitetu Britanske Kolumbije od strane Mathisa Wackernagela i Billa Reesa. Od tada, ekološki otisak je postao široko prihvaćen metod za procenu ekološke performanse na globalnom nivou i praćenje napretka ka održivom razvoju (Wackernagel & Rees, 1996).

Tehnologija danas ima širi smisao zahvaljujući njenom prisustvu u svim oblicima čovekove delatnosti, zato utiče i na sve oblasti čovekovog života. Takođe, tehnologija ima veliki značaj u odnosu čoveka prema prirodi i društvu (Hall & Shane, 2005). Preko tehnologije priroda, čovek i društvo čine jedinstvenu celinu, a tehnologija se nalazi u centralnom delu. Čovek je taj koji pokreće naučno-istraživački rad, sprovodi ga, primenjuje rezultate, stvara nove tehnologije, dok je na kraju i sam korisnik istih (Hall & Shane, 2005). Trebalo bi da čovek nastoji da prirodu prilagodi svojim potrebama, da se trudi da smanji negativno dejstvo tehnologije i uništavanje prirode, kao i da pravilno iskoristi prirodne resurse kroz ostvarivanje tehnologije održivog razvoja (Spitsin et al., 2023; Hall & Shane, 2005). To je moguće postići brigom o ekološkom otisku.

Stoga, ekološki otisak se koristi za procenu utrošaka prirodnih resursa na nivou pojedinca, organizacije, regiona, ali i na globalnom nivou (Savić et al., 2011; Belčáková, et al., 2017). Primenom ekološkog otiska moguće je izračunati sve aktivnosti koje dovode do potrošnje obnovljivih izvora, potrošnje hrane, smeštaja i prevoza, što omogućava da se sagleda koje aktivnosti najviše utiču na životu sredinu i prirodne resurse (Belčáková et al., 2017).

Ekološki otisak se definiše kao periodična evaluacija upotrebe obnovljivih prirodnih resursa, obuhvatajući merenje dostupnih resursa i njihovu upotrebu u zadovoljenju ljudskih potreba, kao i apsorpciju proizvedenog otpada (Savić et al., 2011). Na ovaj način možemo napraviti poređenje između toga šta iz prirode se iskorišćava, sa time koliko su, zapravo, ti izvori dostupni. Moguće je, u kratkom roku, iskoristiti više obnovljivih resursa nego što je realno dostupno, ali ovakvo "ekološko prekoračenje" dovodi do uništavanja naše prirodne sredine (Rudolph & Figge, 2017).

Cilj rada jeste da se sagleda uticaj ekološkog otiska na nivou pojedinca i koliko je stanovništvo upućeno u pojam ekološkog otiska, kao i koliko zapravo ljudi obraćaju pažnje na samu ekologiju. Na taj način, moguće je široj javnosti približiti činjenično stanje i podstaknuti na neke radikalne promene kako bi se uspostavila veza sa prirodom. To je bitno, zato što je već poznato da ljudi neštedljivo troše prirodne resurse i da su se već potrošile predviđene rezerve koje su namenjene za godinu dana i to već u prvoj polovini ove godine (Veljković, 2013). Zato je potrebno da se obrati veća pažnja na način života kako bi se uspostavilo veće blagostanje sa prirodom i prosperitet u društvu.

2. LITERATURNI PREGLED

Ekološki otisak svoj razvoj duguje Mathisu Wackernagelu koji ga je obrađivao u svom doktorskom radu 1990. godine, nakon njega je celi koncept razvijao William Rees koji je i stvorio ime ekološki otisak (Wackernagel & Rees, 1998).

U knjizi Chambers i njegovih saradnika (2014), ekološki otisak opisan je kao alat kojim se meri količina tla i vode potrebnih da podrže materijalni standard određene populacije uz korišćenje prevladavajuće tehnologije. Ekološki otisak se meri u hektarima i pokazuje koliko je svakome od nas, odnosno pojedinom gradu ili državi, potrebno površine da

zadovolji svoje potrebe u hrani, stanovanju, energiji, transportu ili zbrinjavanju otpada (Marquart-Pyatt, 2010).

U proteklih četrdeset godina, ljudska potražnja za prirodnim resursima prevazišla je planetarne kapacitete obnove Zemlje. Trenutna situacija implicira potrebu za resursima i ekološkim uslugama koje premašuju kapacitet Zemlje za 1.8 puta (Wackernagel, 1994). Dugoročno, nije održivo nadmašiti prirodne kapacitete ekosistema, što se manifestuje u prekomernoj seči šuma, prelovu riba i emisiji ugljenika u atmosferu. Ovi postupci već imaju vidljive posledice, uključujući gubitak biodiverziteta i akumulaciju ugljenika u atmosferi (WWF, 2016).

Ekološki otisak je kumulativna mera ljudskih zahteva prema određenom prostoru, obuhvatajući potrebne biološki održive površine za poljoprivredne kulture, naseljena područja, ribolovne i šumske resurse (Chambers et al., 2014). U ovom kontekstu, takođe se obuhvata površina šume neophodna za apsorpciju emisija ugljen-dioksida koje nisu apsorbovane od strane okeana. Biokapacitet i ekološki otisak su mereni u zajedničkoj jedinici poznatoj kao globalni hektar (gha). Glavni uzrok ovog rastućeg trenda povećanja ekološkog otiska je povećana emisija ugljen-dioksida (CO₂) u poslednjih pedeset godina, što je rezultat korišćenja fosilnih goriva (Ni, 1986). Globalni biokapacitet Zemlje u 2012. godini iznosio je 12,2 milijarde globalnih hektara (gha), što se prevedeno na pojedinačni nivo iznosi 1,8 gha po stanovniku, dok je ekološki otisak čovečanstva dostigao 20,1 milijardu gha (2,8 gha po osobi). Neravnomerna distribucija ekološkog otiska znači da građani bogatijih nacija vrše neadekvatan pritisak na ekosistem, iscrpljujući prirodne resurse iznad svojih stvarnih potreba. Nasuprot tome, mnoge od najsiromašnijih zemalja suočavaju se sa nedostatkom resursa potrebnih za osnovne životne potrebe (WWF, 2014).

Postoje razne vrste ekološkog otiska, koje se u literaturama nalaze pod nazivom “porodica otisaka” u koju spadaju: vođeni otisak, otisak ugljen dioksida i ekološki otisak u užem smislu, a svi oni zajedno čine jednu veliku celinu (Belčáková et al., 2017). Takođe, razlikuju se nekoliko komponenti ekološkog otiska, posmatrano u smislu potrošnje (Savić & et al., 2011): Otisak ugljenika (*engl.* Carbon uptake footprint) predstavlja površinu šuma koja je potrebna da bi se absorbovala emisija CO₂ nastala sagorevanjem fosilnih goriva, promenom namene zemljišta i hemijskim procesima, izuzimajući količinu koju absorbuju okeani; Pašnjački otisak (*engl.* Grazing land footprint), odnosno, površina pašnjaka neophodna za uzgoj stoke sa ciljem dobijanja mesa, mlečnih proizvoda, kože i vune; Šumski otisak (*engl.* Forest footprint) proračunava se na osnovu količine ogrevnog drveta i svih vrsta drvnih supstituta koji se potroše na godišnjem nivou; Otisak ribarstva (*engl.* Fishing grounds footprint) proračunava se iz procenjene primarne produkcije neophodne da se nadomesti izlov ribe i morskih plodova; baziran je na podacima o izlovu za 1436 morskih i 268 slatkovodnih vrsta; Otisak useva (*engl.* Cropland footprint) proračunava se iz površine koja se koristi za proizvodnju žitarica i ostalih poljoprivrednih vrsta za ishranu ljudi, ishranu stoke, proizvodnju ulja, itd; Infrastrukturni otisak (*engl.* Built-up-land footprint) proračunava se iz površine zemljišta prekrivene različitim oblicima infrastrukture, kao što su saobraćajnice, objekti za stanovanje, industrijski objekti, i akumulaciona jezera (Savić et al., 2011).

Od kada je metodologija razvijena, preko 100 gradova i regiona širom sveta je sproveo procenu svojih ekoloških otisaka, čiji su rezultati objavljeni u različitim izveštajima. Švajcarska vlada je integrisala ekološki otisak u nacionalni plan održivog razvoja, dok je Vejls odabrao ekološki otisak kao glavni indikator za merenje održivosti (WWF, 2011). Japan je formalno uveo analizu ekološkog otiska kao deo procesa izrade svog ekološkog plana. Među nevladinim organizacijama, WWF International koristi analizu ekološkog otiska kako bi unapredio programe zaštite prirode i održivog razvoja (WWF, 2011). Pomoću analize

ekološkog otiska, ova organizacija razvila je program “One Planet” s ciljem da ostvari postavljeni cilj izmirivanja globalnog ekološkog deficita do 2050. godine (WWF, 2011).

Zemlje se uveliko razlikuju kako u potražnji tako i u ponudi prirodnih resursa tokom vremena (Niccolucci et al., 2012). Istraživanja sugerišu na dalji porast ekološkog otiska, koji će se uglavnom ograničiti na stvarnu upotrebu zemljišta, a neće uključivati emisije CO₂, tokom narednih decenija u većini svetskih regiona. Ovaj trend se prognozira kao rezultat rasta globalne populacije, promena u ljudskoj ishrani ka proizvodima koji zahtevaju intenzivniju upotrebu zemljišta i opšteg povećanja potrošnje (Van Vuuren & Bouwman, 2005).

2.1. Ekološki otisak u Srbiji

Svetski fond za prirodu (WWF, 2010) objavio je analizu koja ukazuje da potrebe čovečanstva za prirodnim resursima premašuju kapacitet Zemlje za oko 50 posto. Ovi podaci su objavljeni 13. oktobra 2010. godine u najnovijem izdanju publikacije WWF „Living Planet Report“, vodećeg istraživanja o stanju planete. Analiza pokazuje da Srbija pripada grupi zemalja koje troše više prirodnih resursa nego što Zemlja može da podnese (WWF, 2010). Naše potrebe za prirodnim resursima su se udvostručile od 1966. godine. Da bi se održao trenutni stil života, potrebno je 1,5 puta više postojećih prirodnih resursa planete (Dimović, 2010). „Nastavimo li da živimo iznad kapaciteta Zemlje, do 2030. godine biće nam potrebne dve planete. kako bi smo zadovoljili svoje godišnje potrebe “(Dimović, 2010).

Novi izveštaj Svetskog fonda za prirodu (WWF, 2016) ukazuje na činjenicu da Srbija troši više prirodnih resursa nego što joj je dostupno. Srbija se nalazi na 70-om mestu na osnovu kriterijuma koji se koriste u ovom izveštaju. Nastavimo li trenutni trend potrošnje doći ćemo do tačke sa koje povratak neće biti mogući (Dimović, 2010).

Prema dokumentu “Nacionalna strategija održivog razvoja Srbije” planirano je godišnje izveštavanje o napretku u implementaciji strategije. Ovo izveštavanje se zasniva na 72 indikatora koji su usaglašeni sa novom listom komisije za održivi razvoj UN (*engl.* United Nations Commission for Sustainable Development, SDI Initiative), uključujući indikatore Milenijumskih ciljeva razvoja (*engl.* Millenium Development Goals, MDGs) (Veljković, 2013). U Akcionom planu za sprovođenje strategije su definisani indikatori za većinu planiranih aktivnosti, uz izradu posebnog izveštaja koji se oslanja na 20 ključnih indikatora. Ovi indikatori imaju ključnu ulogu u pružanju jasne slike o napretku politike održivog razvoja u ključnim pitanjima: kvalitet života, pravedna raspodela resursa, efikasna upotreba resursa i stanje životne sredine, uključujući njene posledice (Dinić & Tasković, 2018; Veljković, 2013).

Izveštaj o napretku u primeni nacionalnog akcionog plana “Strategija održivog razvoja Republike Srbije” zahteva od lokalnih samouprava da godišnje dostave izveštaj o napretku u sprovođenju aktivnosti predviđenih akcionim planom “Strategije”, za koje su one nadležne (Dinić & Tasković, 2018). Dodatno, lokalne samouprave su dužne da usvoje sopstvene strategije održivog razvoja i unutar njih, na osnovu njihovih specifičnosti, odrede sopstvene indikatore za praćenje napretka (Vukelić et al., 2023). Nacionalna asocijacija lokalnih vlasti Srbije, “stalna konferencija gradova i opština” je kao preporuku lokalnim samoupravama objavila “Vodič za izradu lokalnih strategija održivog razvoja” sa prilogom -“Lista indikatora”. Svi oni su tradicionalni indikatori ekosocijalnog sistema (Veljković, 2013).

Kako bi poboljšala izveštavanje u oblasti zaštite životne sredine, Agencija za zaštitu životne sredine usvojila je “listu nacionalnih indikatora zaštite životne sredine”. Ova lista se zasniva na zakonskoj obavezi Agencije da razvija, usklađuje i održava nacionalni informacioni sistem za životnu sredinu. Indikatori zaštite životne sredine se razvijaju i analiziraju u skladu s međunarodnom i evropskom metodologijom, omogućavajući Agenciji

za zaštitu životne sredine da ih deli s postojećim sistemima u EU i sistemima država članica povezanim u Evropsku informacionu i osmatračku mrežu za životnu sredinu (EIONET) (Dinić & Tasković, 2018; Veljković, 2013).

Danas se koristi više kompozitnih indikatora, namenjenih za bolje razumevanje međusobne povezanosti različitih aspekata razvoja na globalnom nivou. Kod nas se prati "Indeks ljudskog razvoja" (*engl.* Human Development Index, HDI), koji je uvršten u listu indikatora održivog razvoja (Veljković, 2013; Roser, 2014). Ovaj indikator, prvobitno razvijen unutar UNDP programa, sintetizuje pokazatelje zdravstva, obrazovanja i životnog standarda, te se redovno objavljuje u godišnjim izveštajima. Drugi značajan indikator, iako još nije zvanično uveden u našoj zemlji, je ekološki otisak (*engl.* Ecological Footprint), koji je koncipirao kanadski ekonomista Vilijam E. Ris (Rees, 1998). Ovaj indikator održivog razvoja procenjuje ljudsku nosivost kao meru potrošnje resursa i generisanja otpada koja se može održavati bez progresivnog pogoršanja produktivnosti ekosistema (Rees, 1998).

3. METODOLOGIJA

Za potrebe ovog istraživanja sprovedena je anketa u cilju ispitivanja stavova stanovništva u vezi intervencija koje treba preduzeti kako bi se podstakli proizvođači, supermarketi i potrošači da ulože napor i doprinesu zaštiti životne sredine, a posebno da doprinesu borbi protiv klimatskih promena. U tom smislu anketa je fokusirana na utvrđivanje koliko su akteri društva spremni da pri proizvodnji, kupovini i konzumaciji hrane obrate pažnju na ekološki otisak, te da li su spremni da se odreknu dela prihoda i ličnog komfora kako bi izabrali opcije koje imaju nizak ekološki otisak pri svakodnevnom izboru hrane. Pitanja su osmišljena na način da su ispitanici mogli jednostavno i sa malo napora izraziti vlastite stavove, mišljenja i predloge.

Za potrebe istraživanja učestvovalo je 141 ispitanik različitog profila, uzrasta, zanimanja. Istraživanje je sprovedeno u vidu ankete na petostepenoj Likertovoj skali (1-apsolutno se ne slažem do 5 – apsolutno se slažem. Anketa se sastoji od dve grupe pitanja, demografska struktura ispitanika i pitanja koja se odnose na stavove o ekološkom otisku. Za potrebe ovog rada analizirana je druga grupe pitanja koja se odnose na stavove o ekološkom otisku. Dobijeni rezultati sprovedene ankete obrađeni su u softverskom paketu SPSS v.22.

3.1. Analiza rezultata

Dobijeni podaci putem anketiranja ispitanika su kodirani i obrađeni primenom softverskog paketa SPSS v.22. Rezultati dobijene faktorske analize, Cronbach koeficijent alfa i corelacione analize su pridstavljeni u ovom radu.

Faktorska analiza (EFA) je skup statističkih tehnika koje omogućavaju identifikaciju manjeg seta manifestiranih varijabli ili faktora iz većeg broja varijabli. Glavni fokus faktorske analize je pronalaženje faktora koji leže u osnovi međusobne povezanosti manifestiranih varijabli (Jevtić & Maksimović, 2015). Ova analiza je široko primenjena u istraživanjima i njeni rezultati se smatraju korisnim za izvlačenje zaključaka. Posebno je korisna u istraživanjima koja obuhvataju veliki broj varijabli koje su međusobno povezane korelacijom, a gde je potrebno identifikovati osnovne izvore kovarijacije među podacima. (Jevtić & Maksimović, 2015). Granične vrednosti težinskih koeficijenata trebaju biti ≥ 0.5 da bi se smatrali zadovoljavajućim težinskim vrednostima (Hair et al., 2014).

Pomoću programa SPSS urađena je EFA sa rotacijom koja je 37 varijabli izdvojila u 5 faktora, odnosno, pet grupa pitanja kao što su: paradigma ekološkog otiska, očuvanje životne sredine, svest o ekološkom otisku, frekvencija informacija, stavovi o ekološkom otisku.

Takođe, EFA je utvrdila je da 5 stavki ne zadovoljavaju uslov graničnih vrednosti težinskih koeficijenata < 0.5 zbog čega su 5 stavki izbačene iz analize. U Tabeli 1 su prikazani rezultati sprovedene analize.

Tabela 1. Faktorska analiza

	Paradigma Ekološkog otiska	Očuvanje životne sredine	Svest o ekološkom otisku	Frekvencija informacija	Stavovi o ekološkom otisku
Kada ljudi pokušavaju upravljati i obuzdati prirodu to često ima katastrofalne posledice	0.756				
Domišljatost ljudi će osigurati da planeta ne postane mesto na kojem je nemoguće živeti	0.541				
Čovečanstvo preterano koristi prirodne resurse	0.725				
Planeta Zemlja ima dovoljno resursa ukoliko naučimo da ih efikasno koristimo	0.565				
Biljke i životinje imaju pravo na opstanak, baš kao i ljudi	0.736				
Pored svih naših sposobnosti čovečanstvo je i dalje pod uticajem zakona prirode	0.552				
Planetu Zemlju možemo predstaviti kao brod sa ograničenim brojem prostorijske i resursa	0.711				
Prirodna ravnoteža je veoma važna i veoma je lako narušiti je	0.798				
Ako se situacija nastavi u ovom pravcu uskoro ćemo svedočiti velikim ekološkim katastrofama	0.767				
Za razliku od bogatih i razvijenih zemalja, zemlje u razvoju ne mogu priuštiti da „plaćaju“ dodatno otklanjanje negativnih posledica zagađenja	0.686				
Ljudi imaju pravo da koriste sve prirodne resurse kako bi vlastite zadovoljili potrebe		0.680			
Sposobnost prirode da uspostavi ravnotežu je dovoljna da apsorbira negativne uticaje moderne industrije		0.824			
Problem zvani „ekološka kriza“ sa kojom se suočava čovečanstvo je preuveličan		0.638			
Ljudi su predodređeni da vladaju i upravljaju prirodom		0.689			

Kada pravim male promene poput recikliranja, promene ishrane, korišćenje obnovljivih izvora energije osećam se kao da doprinosim, radim dobro za okolinu.			0.766		
Ja sam obevezan da sprovodim ekološke aktivnosti kako bi osigurao budućnost za nove generacije.			0.824		
Moja je odgovornost podstaknuti komšije da umanjuju negativni uticaj na okolinu.			0.778		
Moja je obaveza da pokušam smanjiti negativni uticaj na okolinu i u slučaju ako to drugi ne rade.			0.842		
Za mene je briga o okolini prioritetna, odnosno veoma važna u svakodnevnom životu.			0.725		
Čini me sretnim kada sprovodim aktivnosti koje su dobre za okolinu i onda kada od toga nemam novčanu korist.			0.730		
Smanjenje negativnog uticaja nije moja lična odgovornost				0.670	
Koristim online aplikacije kako bi merio vlastiti karbonski otisak (koliko zagađujem)				0.589	
U odnosu na prosek, znam dosta o tome kako meriti uticaj prehrambenih proizvoda na okolinu				0.528	
Osobe koje me znaju, smatraju me osobom koja poseduje znanje u polju uticaja prehrambenih proizvoda na okolinu				0.538	
Razumem značenje oznake/informacije za karbonski otisak					0.593
Oznaka karbonskog otiska na proizvodu obezbeđuje informaciju o emisiji ugljenika CO ₂ e(ukupna količina gasova koji izazivaju efekat staklene bašte, od farme do trpeze)					0.741
Dobijanje oznaka karbonskog otiska (Carbon footprint) povećava cenu proizvoda, kako bi se proizvođači motivisali da manje zagađuju i da pri tome povećaju					0.786

prihode					
Razumem značenje informacija o porezu na ugljenik na pakovanju proizvoda					0.751
Porez na ugljenik je iznos koji treba platiti kako bi se umanjio negativni uticaj hranena okolinu i emisiju CO ₂ e					0.898
Porez na ugljenik će povećati cene proizvoda, a to će motivisati potrošače da se okrenu hrani sa niskim karbonskim otiskom, a koja će tako postati relativno jeftinija					0.844
Oznake poreza na ugljenik i karbonski otisak će povećati cene proizvoda i na taj način hranu će učiniti manje dostupnom					0.799
Organska hrana ima nizak karbonski otisak (nisku emisiju CO ₂ e)					0.825

Za potrebe eksploratorne faktorske analize izračunata je vrednosti Bartlett testa koja iznosi ($X^2=3390.468$, $df= 561$, $p<0.000$), što ukazuje da postoji međuzavisnost između posmatranih varijabli, zbog čega je opravdana primena faktorske analize. Takođe, to potvrđuje i vrednost KMO indikatora koji iznosi 0.852, što se smatra dobrom vrednošću za primenu faktorske analize. U Tabeli 2 prikazane su dobijene vrednosti KMO i Bartlett-ovog testa.

Tabela 2. KMO i Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.852
Bartlett's Test of Sphericity	Approx. Chi-Square	3390.468
	Df	561
	Sig.	0.000

Pouzdanost merne skale je primenjena za uspostavljanje unutrašnje konzistentnosti i potvrđena Cronbahovim Alfa koeficijentom. Preporučene vrednosti unutrašnje konzistencije su iznad 0,7. Dobijene vrednosti Cronbah Alfa koeficijenata prikazane su u Tabeli 3, što ukazuje na veoma zadovoljavajuće vrednosti, a interna konzistentnost je potvrđena.

Tabela 3. Cronbah Alfa koeficijent

	Broj varijabli	Cronbach Alfa vrednost
Paradigma ekološkog otiska	11	0.895
Očuvanje životne sredine	4	0.772
Svest o ekološkom otisku	6	0.900
Frekvencija informacija	5	0.817
Stavovi o ekološkom otisku	8	0.930

Sledeći korak u obradi podataka jeste korelaciona analiza koja ima za cilj da utvrdi postojanje i karakter odnosa između dve promenljive, kao i da odredi stepen i pravac te veze. Ovim se procenjuje koliko su dve ili više promenljive međusobno povezane (Cohen et al., 2013). Nakon izvršene korelacione analize, uočeno je da između svih grupa pitanja postoje tri veze koje su statistički značajne na nivou $p < 0.01$, dok su dve na nivou od $p < 0.05$. Rezultati korelacione analize mogu se uočiti u Tabeli 4.

Tabela 4. Korelaciona analiza

	Paradigma ekološkog otiska	Očuvanje životne sredine	Svest o ekološkom otisku	Frekvencija informacija	Stavovi o ekološkom otisku
Paradigma Ekološkog otiska	1				
Očuvanje životne sredine	0.064	1			
ekološkom otisku	0.388**	-0.070	1		
Frekvencija informacija	0.094	0.080	0.047	1	
Stavovi o ekološkom otisku	0.074	0.048	0.211*	0.191*	1

** *Korelacija je značajna na nivou 0,01 (2-tailed).*

* *Korelacija je značajna na nivou od 0,05 (2-tailed).*

4. ZAKLJUČAK

Održivi razvoj predstavlja skup promenljivih ljudskih ekonomskih sistema i prirodnih ekoloških sistema, koji deluju u harmoniji bez međusobnih turbulencija koje mogu narušiti ovu harmoniju. Bitno je da svaki pojedinac, organizacija i društvo u globalu preuzme na sebe odgovornost za promovisanje održivog razvoja kao i njegovo sprovođenje na lokalnom nivou kako bi se posledice osetile i na globalnom nivou sve to u interesu celog čovečanstva. Koncept ekološkog otiska, razvijen od strane brojnih autora, koristi se kao alat za merenje ekološkog uticaja potrebnog za podršku određenom materijalnom standardu populacije, uzimajući u obzir trenutne tehnologije i resurse.

Ove informacije i saznanja će istraživačkom timu omogućiti da preporuče donosiocima odluka set intervencija (uvođenje označavanja proizvoda za one koji imaju niži ugljeni otisak, ugljenične takse (poreze) i/ili subvencije isl.) koji su za naše sugrađane prihvatljivi i koji će rezultirati boljim kvalitetom života za sve.

Metadologija ovog rada se zasniva na anketi od 141 ispitanika. Dobijeni rezultati sprovedene ankete obrađeni su u softverskom paketu SPSS v.22. Iz ankete je izdvojeno 3 grupe pitanja, koje na osnovu Faktorske analize su dobijeni 5 faktora. Isto tako, potvrđuje je i vrednost KMO indikatora koja se smatra dobrom vrednošću, takođe i u slučaju vrednosti Kronbah Alfa su zadovoljavajuće. I na kraju je sprovedena korelaciona analiza koja je pokazala veoma loše rezultate. Rezultati koji su dobijeni nam pokazuju da je uzora još uvek mali i da zbog toga nisu dobijeni reprezentativni rezultati, tako da ćemo se potruditi da u budućnosti nastaviti da se bavimo ovom temom.

Kao polazna osnova za dublju analizu uticaja brojnih faktora na ekološki otisak mogu poslužiti rezultati dobijeni u ovom istraživanju.

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PUBLIC AWARENESS AND ATTITUDES ON CIRCULAR ECONOMY CONCEPT IN REPUBLIC OF SERBIA

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Abstract: This study explores the awareness and attitudes of citizens regarding the concept of circular economy (CE) in the Republic of Serbia. The knowledge and understanding of CE, as well as the environmental behavior of respondents, were examined. The results show that although the majority of respondents are familiar with the concept of sustainable development, only a smaller portion of them (42%) are acquainted with the concept of CE, while 39% of respondents have not heard of this term. However, 31% of respondents are familiar with the concept of CE. The majority of respondents (78%) have a habit of repairing devices instead of buying new ones, while 90% of them separate some type of waste at home. Respondents expressed a positive opinion about the concept of resource sharing. In conclusion, the study indicates a high level of environmental awareness, but at the same time identifies the need to improve knowledge about CE in order for the general population to become better acquainted with this concept and actively contribute to the implementation of the circular economy.

Keywords: sustainable development, circular economy, awareness, attitudes, Republic of Serbia.

SVEST I STAVOVI GRAĐANA O KONCEPTU CIRKULARNE EKONOMIJE U REPUBLICI SRBIJI

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Abstrakt: Ova studija istražuje svest i stavove građana o konceptu cirkularne ekonomije (CE) u Republici Srbiji. Ispitano je poznavanje i razumevanje CE, kao i ekološko ponašanje ispitanika. Istraživanje je sprovedeno putem google upitnika, a upitnik je distribuiran putem društvenih mreža i e-mail adresa. Upitnik se sastojao od 19 pitanja koja su podeljena u tri grupe (opšta pitanja, javno znanje i svest o cirkularnoj ekonomiji i ekološko ponašanje ispitanika). Na ovaj način prikupljena su mišljenja i stavovi 107 ispitanika. Rezultati pokazuju

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da iako većina ispitanika poznaje pojam održivog razvoja, samo manji deo njih (42%) je upoznat sa konceptom CE, dok 39% ispitanika nije čulo za ovaj pojam. Ipak, 31% ispitanika je upoznato sa konceptom CE. Većina ispitanika (78%) ima naviku popravljavanja uređaja umesto kupovine novih, dok 90% njih vrši odvajanje neke vrste otpada u kući. Ispitanici su izrazili pozitivno mišljenje o konceptu deljenja resursa. Zaključno, studija ukazuje na visok nivo svesti o očuvanju životne sredine, ali istovremeno identifikuje potrebu za unapređenjem znanja o CE kako bi se celokupna populacija bolje upoznala sa ovim konceptom i aktivnije doprinela implementaciji cirkularne ekonomije.

Ključne reči: Održivi razvoj, cirkularna ekonomija, svest, stavovi, Republika Srbija.

1. UVOD

Koncept linearne ekonomije, koji podrazumeva jednosmerno kretanje materije i energije, suprotstavlja se novom konceptu cirkularne/kružne ekonomije. U cirkularnoj ekonomiji se promoviše kružno kretanje prirodnih materijala i energije, te njihova ponovna upotreba. Ovim pristupom se efikasno koriste prirodni resursi (čak i preko 90%), dok se istovremeno generiše dodatna bio-energija (Šajin i drugi, 2018).

Koncept cirkularne ekonomije nije ograničen samo na pojedinačne sektore ili oblasti, već prožima sve segmente društva i sve sfere koje zahtevaju jasne poslovne principe u kontekstu cirkularne ekonomije. Kako se bavimo modernom industrijskom revolucijom, potrebno je pristupiti ovom pitanju sa više različitih perspektiva, uključujući strateški, zakonodavni, tehnički, ekonomski, kao i standarde i druge dobrovoljne instrumente. Pored državnih institucija i privatnih kompanija, ključnu ulogu u implementaciji koncepta cirkularne ekonomije igraju građani. Njihovo ponašanje i stavovi mogu podržati koncept cirkularne ekonomije. Stoga je svest građana o značaju primene cirkularne ekonomije jedan od ključnih elemenata u ovom složenom procesu tranzicije.

Istraživanje sprovedeno u Saudijskoj Arabiji pokazalo je da je svest građana o cirkularnoj ekonomiji povezana sa nivoom obrazovanja građana (Almulhim & Abubakar, 2021).

U Poljskoj, slično istraživanje identifikuje da je koncept CE dobro privačen među mlađom generacijom kojoj je ponašanje blisko kroz kupovinu recikliranih i ponovo upotrebljenih proizvoda (Smol et al., 2018).

Suprotno, studija sprovedena u Južnom Jordanu ukazuje na to da stariji ispitanici imaju veću svest o znanju CE od mlađe grupe ispitanika (Ziadat, 2009). Takođe autori Lee i Chap (Lee & Cho, 2018) u svom istraživanju identifikuju da starije osobe imaju veću volju i želju da se uključe u programe reciklaže i smanjenja upotrebe proizvoda od mlađih osoba.

Što se tiče uticaja pola na nivo svesti i stavova o CE, studije su pokazale različite rezultate. Tako je studija o korisnicima elektronskih i električnih aparata u EU pokazala da su žene starije od 50 godina sa srednjim i višim obrazovanjem spremnije da kupe uređaje koji na kraju životnog veka imaju opcije koje su prihvatljivije za životnu sredinu (Atlason et al., 2017).

Proces prelaska na cirkularnu ekonomiju (CE) je složen i jedinstven za svaku zemlju. Ovo je dugoročni pristup koji ima za cilj održivi razvoj, čuvanje prirodnih resursa i smanjenje zagađenja životne sredine, što direktno utiče na zdravlje ljudi. Tranzicija na CE ne obuhvata samo jedan sektor ili oblast, već utiče na sve aspekte društva i ekonomije. Temelji se na jasnim principima koji promovišu održivo poslovanje u okviru cirkularne ekonomije. Iako je u programu Vlade Republike Srbije od 2017. godine, navedeno je da će se program razvoja zaštite životne sredine odvijati u skladu sa principima cirkularne ekonomije koji se odnose na

infrastrukturne projekte, u praksi približavanje konceptu CE je veoma spor proces što se najviše može videti u oblasti upravljanja otpadom a najviše kroz količinu i vrstu generisanog otpada.

Informacije o količinama i vrstama otpada koji se generiše na godišnjem nivou omogućavaju uvid u stanje u različitim sektorima ili industrijama što služi kao polazna tačka za praćenje i analizu količine otpada proizvedenog u različitim sektorima i aktivnostima i procenu potencijala i raspoloživih resursa za realizaciju koncepta cirkularne ekonomije.

U Srbiji, tokom 2022. godine generisano je 11.460.971t otpada gde morfološki sastav komunalnog otpada ukazuje na najveću zastupljenost biorazgradivog otpada u udelu od 45,6 %. Vrste otpada koje su znatno manje zastupljene su: papir i karton, fini elementi i ostalo (koža, pelene, guma itd.). Iako biorazgradivi otpad predstavlja veliki potencijal za proizvodnju komposta, ukoliko bi se planski i organizovano, odvojeno sakupljao po domaćinstvima. Step en reciklaže bio otpada u 2022. Godini je svega 1,32kg/inh. (Đorđević i drugi, Upravljanje otpadom u Republici Srbiji u periodu 2011-2021. godine, 2022.).

Otpad u Republici Srbiji se trenutno pretežno odlaže na deponije koje često ne ispunjavaju osnovne tehničke standarde. Postoji nedostatak potpuno razdvojenog sakupljanja i reciklaže ambalažnog otpada, kao i drugih vrsta komunalnog otpada.

Pored ovakve prakse upravljanja otpadom u Republici Srbiji i gotovo nepostojanja primane selekcije u velikom delu Srbije, postavlja se pitanje o razvijenoj svesti i stavovima građana o CE. Stoga je cilj ovog rada spoznavanje realnog stanja kada je reč o znanju građana kao i njihovih stavova o CE, kao i podizanje svesti o istom.

2. MATERIJALI I METODA ISTRAŽIVANJA

U ovom radu prikazani su rezultati ankete sprovedene na teritoriji Republike Srbije među odraslim stanovništvom u različitim regionima (Vojvodina, Južna Srbija, Zapadna Srbija, Istočna Srbija i Centralna Srbija). U istraživanju su učestvovalе osobe starosti od 18 do 56+ godina, pri čemu je ukupno bilo 107 ispitanika. Anketa je sprovedena *on-line* u periodu od juna do avgusta 2023. godine, koristeći *Google* upitnik i distribuirana je putem društvenih mreža i *e-mail* adresa.

Anketa je podeljena u tri grupe pitanja kako bi se bolje razumeli i analizirali dobijeni podaci:

- Opšta pitanja: Ova grupa pitanja je služila za prikupljanje osnovnih podataka o učesnicima. To uključuje informacije kao što su pol, starosna grupa, obrazovanje, oblast obrazovanja, zaposlenost i mesečna (ukupna porodična) primanja. Ova grupa pitanja je od ključnog značaja za tumačenje krajnjih rezultata upitnika i izvođenje zaključaka.
- Grupa pitanja koja se odnose znanje i svest građana o cirkularnoj ekonomiji: Ova grupa pitanja je osmišljena kako bi se istražilo koliko su ljudi upoznati sa održivim razvojem, cirkularnom ekonomijom i otpadom.
- Specifična grupa pitanja koja se odnosi na performanse i ponašanje ispitanika: Ova grupa pitanja je imala za cilj da provere ekološke postupke koje ljudi svakodnevno čine. Takođe u okviru ove grupe definisana su i pitanja koja bi direktno identifikovala postupke građana koji direktno ili indirektno predstavljaju deo ciklusa cirkularne ekonomije i njihov lični doprinos istoj.

U istraživanju su se koristila različita pitanja i načini odgovaranja kako bi se bolje razumeli stavovi i znanja učesnika o cirkularnoj ekonomiji. Neka pitanja su imala predložene odgovore kao što su (Da, veoma sam upoznat/a; Čuo/la sam; Nikad nisam čuo/la; Nisam zainteresovan/la). Takođe, bila su postavljena pitanja koja su omogućavala učesnicima da

sami formulišu svoje odgovore, što je rezultiralo raznovrsnim odgovorima. Nakon prikupljenih odgovora, vršena je revizija i sistematizacija kako bi se grupisali najčešće izraženi odgovori i omogućilo njihovo lakše analiziranje.

Rezultati istraživanja su prikupljeni i analizirani pomoću Excela. U daljem tekstu će biti grafički predstavljeni rezultati upitnika. Takođe, biće izložene analize ovih odgovora kako bi se bolje razumeli obrasci ponašanja javnosti i izveli zaključci o razumevanju pojma cirkularne ekonomije od strane učesnika.

3. RETULTATI

Da bi se bolje razumeo sastav i profil ispitanika koji su učestvovali u istraživanju, postavljena su lična pitanja koja se odnose isključivo na njihove karakteristike i profil.

U istraživanju je učestvovalo 107 ispitanika, od toga je 67% ispitanika ženskog pola i 33% ispitanika muškog pola.

Ispitanici su starosne grupe od 18 do 56+ godina. U anketi je učestvovao najveći procenat (56%) ispitanika koji pripadaju starosnoj grupi od 18-25. Zatim 23% ispitanika je starosne grupe između 41-55, dok je njih 16% pripadalo starosnoj grupi od 26-40. Najmanji procenat ispitanika, od 5% pripada starosnoj grupi od 56+.

Odgovori su pokazali da su učesnici ankete iz različitih regiona Republike Srbije, što je doprinelo da istraživanje obuhvati teritorijalno veliku površinu. Ipak, najveći broj ispitanika je iz Vojvodine, njih čak 68%. Takođe, velika je zastupljenost učesnika iz Centralne Srbije (25%), dok u anketi nije učestvovao ni jedan ispitanik iz Južne Srbije.

Stepen obrazovanja ispitanika je veoma visok. Naime, u anketi je učestvovalo čak 55% ispitanika sa višim obrazovanjem (više, visoko odnosno master obrazovanje). Takođe, relativno visok procenat ispitanika (40%) ima završenu srednju školu. Dok je znatno niži procenat ispitanika sa završenom osnovnom školom i doktoratom.

Po obrazovnom profilu, u anketi je najviše učestvovalo ispitanika tehničke (33%) i ekonomske struke (19%). Zastupljenost ispitanika medicinskog obrazovnog profila (10%), zatim ispitanici čiji obrazovni profil spada u društvene (9%), prirodno – matematičke nauke (8%) i u umetnost (5%) je približna. Najmanji procenat ispitanika je sa pedagoškog obrazovnog profila (2%), dok su ostali obrazovni profili svrstani u odgovor “drugo” (14%).

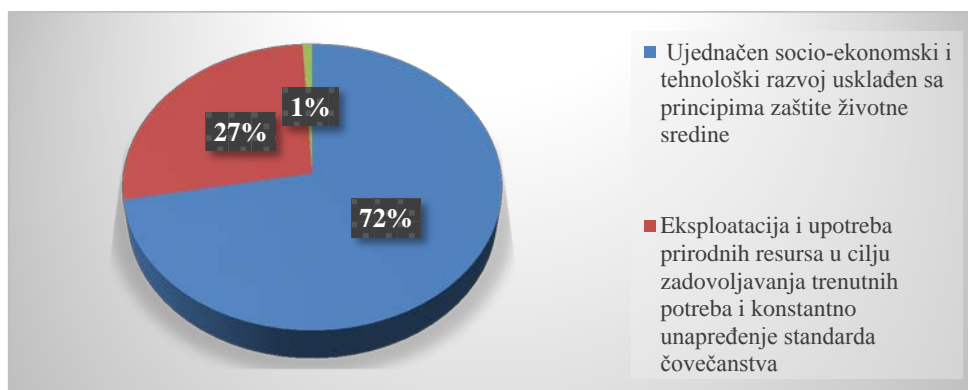
Kada je reč o zaposlenosti, ispitanici su u najvećem procentu zaposleni (53%), dok 42% ispitanika nije zaposleno. Najveći procenat ispitanika (42%) ima primanja više od 110.000 dinara mesečno. Procenat od 18% ispitanika ima mesečna primanja od 76.000 do 90.000 dinara. Isti procenat (12%), ispitanika ima primanja od 51.000 do 75.000 dinara i od 91.000 do 110.000 dinara mesečno. Procenat ispitanika od 8% imaju primanja od 40.000 do 50.000 dinara mesečno.

3.1. Odgovori na pitanja koja se odnose na javno znanje i svest o cirkularnoj ekonomiji

U ovoj grupi pitanja, ispitanici su imali priliku da izraze svoje znanje i razumevanje tema cirkularne ekonomije, kao i koliko su upoznati sa konceptima i principima koji se odnose na očuvanje životne sredine, recikliranje resursa i efikasno upravljanje otpadom.

Na pitanje „Šta predstavlja održivi razvoj“, najveći procenat ispitanika njih 72% dalo je tačan odgovor („ujednačen socio-ekonomski i tehnološki razvoj usklađen sa principima zaštite životne sredine“). Međutim, čak 27% ispitanika smatra da je održivi razvoj

„eksploatacija i upotreba prirodnih resursa u cilju zadovoljavanja trenutnih potreba i konstantno unapređenje standarda čovečanstva (Slika 1).



Slika 1. Pikaz odgovora na pitanje „Šta predstavlja održivi razvoj“

U pogledu upućenosti u koncept cirkularne ekonomije (CE), 42% ispitanika je upoznato, dok 39% ispitanika nije upoznato sa ovim konceptom. Ispitanici koji su veoma upoznati su malobrojni, svega 14%, dok 5% ispitanika uopšte nije upoznato sa konceptom cirkularne ekonomije.

Na pitanje „Šta je cirkularna ekonomija?“, najveći procenat ispitanika (45%) je označilo odgovor „smanjenje, ponovna upotreba i reciklaža otpada“. Neznatno manji procenat ispitanika (31%) je označilo da je to ekonomija koja vodi ka održivoj proizvodnji i potrošnji, dok procenat od 15% navelo da je to ekonomija koja je održiva.

Na pitanje „Šta sistem upravljanja otpadom u RS trenutno obuhvata“, Najveći broj ispitanika (78%) smatra da je to pretežno sakupljanje mešovitog komunalnog otpada i odvoženje na najbližu – gradsku deponiju. Isti procenat ispitanika, po 11%, smatra da sistem upravljanja otpadom u RS obuhvata „Kućnu (primarnu) selekciju otpada i odvoženje na gradsku deponiju“ i „Izdvajanje pojedinih vrsta otpada na samoj deponiji pre samog odlaganja“.

3.2. Pitanja koja se odnose na ponašanja i stavove ispitanika

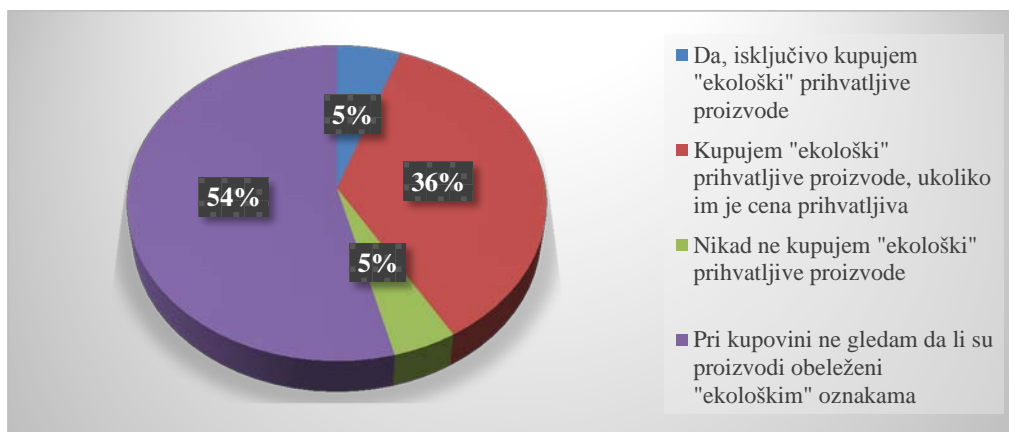
Ova grupa pitanja je bila usmerena na istraživanje ekoloških postupaka koje ljudi redovno praktikuju u svakodnevnom životu. Pitanja iz ove grupe imaju za cilj da utvrde koje konkretno korake ili navike ispitanici primenjuju kako bi doprineli očuvanju životne sredine.

Na pitanje „Pri kupovini da li od više artikala iste ili slične namene kupujete one koji imaju oznake da su “ekološki” ?“, rezultati ankete ukazuju da najveći broj ispitanika (54%) ne obraća pažnju na to da li su proizvodi obeleženi “ekološkim” oznakama. Procenat od 36% ispitanika kupuje proizvode koji su ekološki prihvatljivi ukoliko im je i cena prihvatljiva. Najmanji procenat ispitanika i podjednak, po 5% ili isključivo kupuje ekološki prihvatljive proizvode ili nikad ne kupuje “ekološke” prihvatljive proizvode (Slika 2).

U okviru pitanja „Ukoliko često kupujete “ekološke” proizvode, navedite razlog“ ispitanici su imali mogućnost da samostalno napišu svoje odgovore. S obzirom da su odgovori bili raznovrsni, izvršeno je grupisanje najbližijih odgovora. Većina ispitanika je odgovorilo da ili ne kupuju proizvode koji su štetni za životnu sredinu ili ne obraćaju posebnu pažnju na ekološki aspekt prilikom kupovine. Međutim, takođe postoji druga strana ispitanika, koji kupuje proizvode s ciljem očuvanja životne sredine. Ovi rezultati imaju

raznolikost stavova i ponašanja među ispitanicima u vezi sa ekološkom odgovornošću prilikom kupovine.

Na pitanje „Po Vašem mišljenju koje karakteristike proizvod mora da sadrži da bi bio “ekološki” prihvatljiv?“ procenat od 33% ispitanika smatra da proizvod može ponovno da se upotrebi ili reciklira, 32% ispitanika smatra da ekološki proizvod mora biti biodegradabilan, njih 22% smatra da je to proizvod koji je proizveden iz obnovljivih resursa, a 13% smatra da je ekološki proizvod proizveden čistim tehnologijama.



Slika 2. Prikaz odgovora ispitanika na pitanje: „Pri kupovini da li od više artikala iste ili slične namene kupujete one koji imaju oznake da su “ekološki”?“

Kada je reč o pitanju “Da li popravljate uređaje, robu ili kupujete novu?”, značajan broj ispitanika, čak 78%, izjavio je da popravlja uređaje ili robu, dok je 22% izrazilo sklonost ka kupovini novih uređaja ili robe.

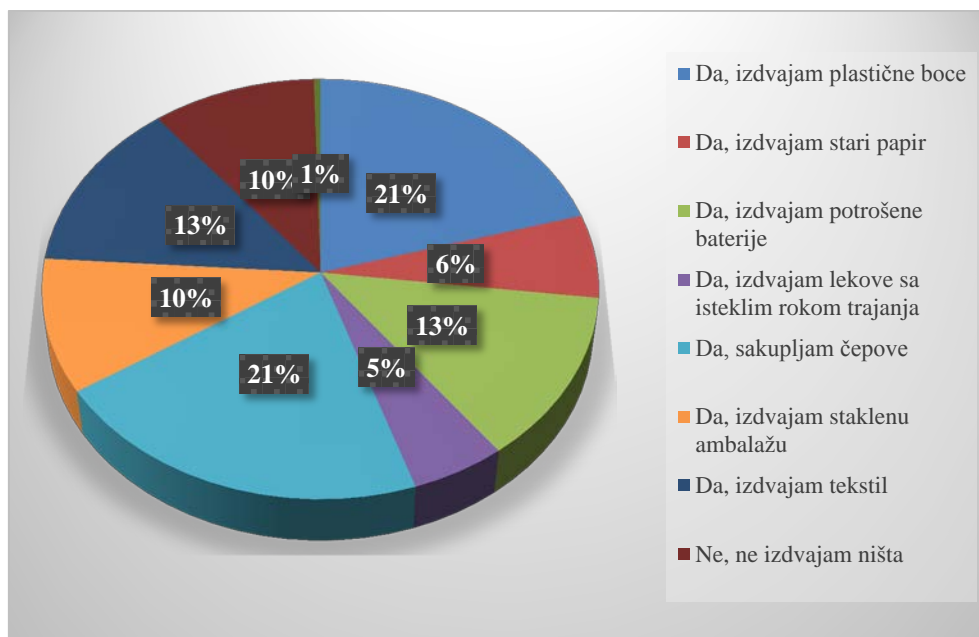
Na pitanje „Ukoliko izdvajate neke vrste otpada u Vašem domaćinstvu, navedite razlog“ najveći procenat ispitanika (43%) je navelo da to čini zbog sprečavanja zagađenja životne sredine. Humanitarni razlozi su razlog za razdvajanje otpada kod 40% ispitanika, dok 8% ispitanika to čini iz ličnih (ekonomskih) razloga, a isti procenat ispitanika ne izdvaja neke vrste otpada.

Kada je reč o praksi selekcije otpada u domaćinstvu, samo 10% ispitanika ne izdvaja nijednu vrstu otpada. Većina ispitanika, međutim, sprovodi neku vrstu selekcije. Najveći procenat, po 21%, izdvaja plastične boce i čepove, dok po 13% izdvaja potrošene baterije i tekstil. Takođe, 10% ispitanika izdvaja staklenu ambalažu, dok 6% odvaja stari papir. Najmanji procenat ispitanika (1%) se bavi selekcijom otpada za kompostiranje (Slika 3).

U okviru pitanja „Po Vašem mišljenju, šta je neophodno da se koncept cirkularne ekonomije implementira u Srbiji?“ ispitanici su imali mogućnost da samostalno napišu svoje odgovore. S obzirom da su odgovori bili raznovrsni, izvršeno je grupisanje najbližnjih odgovora. Najčešći odgovori ispitanika ukazuju na nekoliko ključnih faktora ili strategija koje bi mogli doprineti ostvarivanju određene ideje ili koncepta.

- **Širenje svesti kod građana** – podizanje svesti o određenom konceptu kako bi ljudi bolje razumeli njegovu važnost i uticaj.
- **Veća edukacija** – bolje obrazovanje i informisanje ljudi mogu doprineti većem razumevanju i prihvatanju koncepta.
- **Interesovanje** – kada su ljudi zainteresovani, veća je verovatnoća da će podržati ili usvojiti ideju.
- **Zakoni i kazne** – podrazumeva da postoji pravna regulativa koja podržava ideju i sankcioniše nepoštovanje.

- **Finansije** – uključuje investiciju i podršku od strane vlasti ili drugih organizacija.



Slika 3. Prikaz odgovora na pitanje: „Da li vršite bilo kakvu selekciju otpada u domaćinstvu?“

4. ZAKLJUČAK

U ovom radu su predstavljene rezultati istraživanja o percepciji i stavovima javnosti o CE. Istraživanje je sprovedeno preko upitnika koji je popunilo 107 ispitanika. Anketa je bila koncipirana kroz tri grupe pitanja a u okviru grupe pitanja koja treba da reflektuje percepciju znanja i realno znanje ispitanika o CE, ispitanici smatraju da dobro poznaju pojam održivog razvoja, obzirom da je koncept održivog razvoja predstavljen još 1992. godine, od strane Ujedinjenih Nacija na Konferenciji u Rio de Žaneiru. Međutim, kada govorimo o pojmu cirkularne ekonomije, 42% ispitanika tvrdi da im je poznat pojam, ali čak 39% ispitanika tvrdi da nije upoznato sa pojmom CE. Ipak, odgovori na pitanja koji reflektuju realno znanje ispitanika o CE ukazuje da je 31% ispitanika upoznato sa konceptom CE. Što se tiče poznavanja trenutne situacije u Republici Srbiji u oblasti upravljanja otpadom, odgovori ukazuju da ispitanici nisu upoznati sa realnom situacijom u celoj državi i da im je poznat samo sistem upravljanja koji se sprovodi na lokalnom nivou njihove opštine.

Po pitanju ekološkog ponašanja ispitanika i njihovog ličnog doprinosa konceptu cirkularne ekonomije, odgovori generalno ukazuju na to da većina ispitanika nema razvijenu naviku koje mogu da indikuju ekološko nastrojeno ponašanje kroz kupovinu, ali pri tome su vrlo upoznati sa karakteristikama koje ekološki proizvod treba da poseduje. Takođe, većina ispitanika češće popravlja uređaje nego što kupuje nove, što u principu može biti razlog i ekonomske situacije, ali u svakom slučaju svesno ili nesvesno čini udeo u ličnom doprinosu konceptu CE. U istom maniru može se zaključiti i o primarnoj selekciji jer većina ispitanika, čak njih 90% vrši odvajanje neke vrste otpada u kući, da li zbog očuvanja životne sredine ili iz humanitarnih razloga. Takođe, ispitanici su pokazali pozitivno mišljenje i konceptu „deljenja“ robe i usluga. Najveću potvrdu razumevanja koncepta CE ekonomije ispitanici su dali pri izražavanju mišljenja o neophodnim koracima ka usvajanju koncepta CE u Republici

Srbiji, gde su iako selektivno i pojedinačno navodili ideje, u globalu su obuhvatili sve faktore neophodne za celokupno usvajanje i sprovođenje koncepta CE.

Na kraju, rezultati dobijeni u ovom istraživanju ukazuju da je svest o očuvanju životne sredine u ovoj grupi ispitanika na relativno visokom nivou, ali da pojedine grupe pitanja ukazuju da bi znanje moglo i trebalo biti unapređeno kako bi se složen koncept cirkularne ekonomije usvojio u opštoj populaciji RS.

Ovo istraživanje daje dobru osnovu za dalja istraživanja u oblasti cirkularne ekonomije. Dalja istraživanja će ići u smeru spoznaje razloga nepoznavanja pojma cirkularne ekonomije, kao i u smeru analize uticaja ekonomskih faktora na ekološko ponašanje pojedinca.

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POSSIBLE SCENARIOS TO START OWN FITNESS CENTER

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Abstract: Despite the increasing popularity of healthy and active lifestyles, according to STATISTA (2023) overweight individuals continue to make up a significant portion of population in Europe. According to Yanatma (2023) one in six Europeans is with obese and over 50% of adults are overweight. Therefore, the aim of this article is to emphasize how to establish some more accessible fitness centers for all segments of society. The article also describes some financial scenarios of fitness centers, related to their Initial costs, Payback period, Revenues, Break-even-point, Net present values. The paper could be useful for ambitious entrepreneurs who are considering venturing into the fitness industry. Existing fitness center owners can use this paper as a resource to optimize their current operations. Some public health organizations can leverage this paper to understand the role of fitness centers.

Keywords: fitness, financial scenarios, healthy lifestyle.

1. INTRODUCTION

Over the last decades, healthy and active lifestyles have become highly popular among Europeans. More and more people accept the necessities of regular physical exercise and good health in their daily routine. Nevertheless, despite this positive trend, the European population is still weak and vulnerable in terms of the increasing percentages of overweight and obesity. Statistically, at least one in six European residents is obese, and according to Yanatma (2023) the proportion of overweight adults is above 50%. This fact confirms that the problem of excessive weight, maintains its importance in the European Union. According to Popov (2012) businesses and insurance companies have been directing their efforts towards prevention and limitation of illnesses, aiming to reduce healthcare expenses.

In light of the above, the significance of completely accessible fitness centers cannot be underestimated any longer. They are fundamental for ensuring people are physically active, encouraging good habits, and helping individuals transform and achieve better health and well-being. Through the accessibility of various types of activities, people can enhance their quality of life and improve their way of life significantly.

While preparing this term paper, I would like to focus on financial backgrounds related to the foundation and the operation of fitness center. I would like to determine how

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fitness center is related to finding proper financial solutions and working on a healthy lifestyle promotion.

In case the entrepreneurs have well-arranged family relations they could develop this business as intergenerational business, following the recommendations of Pavlov at al. (2017) and Bakracheva at al. (2020). In addition, the fitness centers should be certified under ISO and be able to meet the higher demands of the market (Gueorguiev and Kostadinova, 2021).

Also, I would like to find, what are the challenges for this field and get over the variety of risks. Therefore, it is important to analyze some of the preconditions to create a fitness center, which will be analyzed in the next section.

2. PRECONDITIONS TO CREATE A FITNESS CENTER

It is possible to suggest some ways of making fitness center affordable and available for any type of client and to help for preventing overweight and obesity in Europe. Let's start with small steps, namely from my own city. "Dream big, start small".

Before opening a fitness center, there are numerous preconditions that need to be considered for its successful establishment and operation. Below, I am outlining key preconditions that must be addressed when embarking on the journey of creating a fitness center:

Location selection - choosing an optimal location is essential for the future success of the fitness center. In this regard, aspects of accessibility, visibility, proximity to the target group and competition, should be carefully considered.

Facility design and equipment - a well-designed and organized facility layout is essential to create a positive and motivating environment for clients. Such a design considers space utilization, safety, cleanliness, aesthetics including paint, and more. Furthermore, investing in high-quality fitness equipment that aligns with the center's offerings and client needs is critical satisfying workout experience.

Staff recruitment is crucial aspects of operating a fitness center, as they ensure the delivery of high-quality services and support to clients. It is imperative to hire highly qualified and experienced personnel, including certified fitness instructors, administrative staff, and cleaners. Moreover, investing in ongoing professional training and development sessions for staff members is essential to promote effective customer service and continuous improvement.

Marketing and Promotion - entrepreneurs should also prepare a robust marketing and promotion plan to help the fitness center to attract and retain clients. It is crucial to incorporate digital marketing, social media and business partnerships to inform more people about the fitness center and its unique characteristics and selling proposition. Building a strong brand identity and fostering positive word-of-mouth referrals are key drivers of long-term success.

Addressing these preconditions in a systematic and thorough manner lays the foundation for the successful creation and operation of a fitness center. By carefully considering financial, logistical, regulatory, and marketing aspects, entrepreneurs can position their fitness center for sustained growth and impact in promoting health and wellness within their community.

Since Ruse is home to many foreign students under the Erasmus program and tourists, it is necessary to adapt services to their needs by researching and understanding their requirements and preferences. This adaptation ensures that services align with their expectations and cultural characteristics.

Potential business partners include local fitness instructors, dieticians, sports shops and manufacturers of sports equipment and nutritional supplements.

Local manufacturers and service providers that can support the business development of the fitness center:

- Local manufacturers of fitness equipment: “Ruse Sport”, “Ivanbg”.
- Local suppliers of dietary supplements: “Ramkopharm”.
- Local providers of building maintenance and servicing: “Planex Invest”.
- Local providers of technical maintenance services: “Fitness Service”.
- Local suppliers of fire safety equipment: “Salamander 911 Ltd”.
- Local providers of marketing and advertising services: “CreateX”.

The students from the University of Ruse “Angel Kanchev” could also relay on the mentoring of their academics, because this HEI has been recognized as “entrepreneurial university” (Pavlov & Ruskova, 2023).

3. BASIC COSTS AND EXPECTED INCOME FROM THE ACTIVITY

There are different competitors in the town of Ruse, Bulgaria. The data in Table 1 gives a general understanding about the prices of the fitness centers in the town.

Table 1. Price list of the main competitors in Ruse, Bulgaria, 2024

Equipment level of the fitness center	Sale prices per month to use the fitness center	
	Students (visits from 10:00 to 16:00)	Regular sale price
Low	15 EUR	20 EUR
Medium	30 EUR	35 EUR
High	45 EUR	50 EUR

On the base of the financial approach, described by Pavlov and Kostadinova (2012) it is possible to develop at least two financial scenarios, given in Table 2.

Table 2. Financial scenarios for the activity of a new fitness center (Kyamilov, 2024)

Indicators	Pessimistic scenario	Optimistic scenario
1. Variable Costs per unit, EUR	10,00	12,00
2. Sales volume for one year, Quantity	750	800
3. Sale Price per unit, EUR	35,00	40,00
4. Fixed Costs per year, EUR	4 000,00	4 000,00
5. Initial Costs of the investment, EUR	50 000,00	50 000,00
6. Annual Revenues, EUR	26 250,00	32 000,00
7. Annual Variable Costs, EUR	7 500,00	9 600,00
8. Total Costs per year, EUR	11 500,00	13 600,00
9. Net Cash Flow per Year, EUR	14 750,00	18 400,00
10. Break Even Point, EUR	5 600,00	5 714,29
11. Pay Back Period, years	3,39	2,72
12. Forecast annual inflation pressure in Bulgaria, %	10%	5%
13. Net present value after 5 years (NPV), EUR	5 914,10	29 662,37

The initial costs are estimated to be 50 000 EUR in both scenarios. The fixed costs per years are the same in the two columns of Table 2. The differences begin with the rest of the lines in Table 2:

- The variable costs per unit could be different. In the optimistic scenario I propose higher variable costs per unit, because it is in case we have enough clients and we can focus more on the quality of the service.
- The number of annual sales are quite similar – 750 in the pessimistic scenario and 800 in the optimistic one. It means that I don't expect to compete the other fitness centers ground shakenly, but to attract my specific clients.
- The Sale price per unit is different. In the pessimist scenario it is 35 EUR, while in the optimist scenario I can attract clients at the price of 40 EUR. I have decided to write these sale prices in Table 2 on the base of the data in Table 1.
- The annual revenues are 26 250 EUR in the pessimistic scenario and 32 000 EUR in the optimistic one. They are calculated on the base of lines 2 and 3.
- The total costs per year are given in line 8, calculated on the base of the line 4 (Fixed costs per year) and line 7 (Annual variable costs).
- The Net Cash Flow per year (line 9) is calculated as a difference between Annual revenues (line 6) and Total costs per year (line 8). In the pessimistic scenario it is 14 750 EUR; in the optimistic scenario – 18 400 EUR.
- Line 10 describes the BEP (Break-even point) for the two scenarios in EUR. They are quite similar, because the Fixed costs per year (line 4) are the same and the Variable costs per unit (line 1) is not very different. The Sale price per unit (line 2) in the optimistic scenario is higher, compared to the Sale price per unit in the pessimistic scenario, which compensate partly the high variable costs.
- The Pay-back period (line 11) describes that in the pessimistic scenario the Initial costs of the investments will be paid back in almost 3 years and 5 months while in the optimistic scenario it will be about 2 years and 9 months.
- To calculate the Net present value (NPV) in line 13 I have chosen two annual inflation rates, given in line 12. The NPV in the pessimistic scenario is quite low, which could stimulate the entrepreneur every year to increase the Sale price per unit (Line 2) to catch the inflation. In the optimistic scenario the NPV is close to 30 000 EUR, which is rather acceptable for me and I do not plan to increase the Sale prices for the proposed period of 5 years.

4. CONCLUSION

In conclusion, the creation of a fitness center requires meticulous planning, strategic decision-making, and diligent execution of various preconditions. From assessing financial viability and selecting an optimal location to recruiting qualified staff, each step plays a critical role in laying the groundwork for a successful venture.

Through this term paper, we have explored the multifaceted aspects of create a fitness center, with a focus on addressing key preconditions. We have highlighted the importance of choosing a suitable location, designing a functional facility layout, recruiting competent staff, and implementing effective marketing strategies.

The fitness centers give people the opportunity for more active lifestyles, improve their well-being, and increase their quality of life.

Final words, it is well-known that excess weight leads to a variety of health conditions. In this line of thought, establishing a fitness center represents not only a business

venture but also a commitment to society to promote a healthier and more vibrant lifestyle, filled with joy. “prevention is better than cure” - Desiderius Erasmus.

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OPPORTUNITIES FOR A SMALL MANUFACTURING COMPANY TO ENTER THE INTERNATIONAL MARKET

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Abstract: This article presents a study on the opportunities of a small family firm to enter the international market. The entrepreneur is also a student in the University of Ruse “Angel Kanchev”, Bulgaria with a good access to some academics for different support. The main goal of this publication is to outline some steps, which entrepreneurs undertake towards their effort to enter the international market. The specific tasks are: (1) to describe some of the main activities in the firm; (2) to present a SWOT analysis and (3) to outline some actions, which could also lead to improvement of the international activity of the firm. The author has conducted desk research to collect the necessary information. The article could be used to develop some case studies for teaching purposes. The material could be valuable for other entrepreneurs, who would like to enter international market, as well as to some academics with research in family businesses.

Keywords: rose oil, rose water, natural bio cosmetics, family business, SWOT.

1. INTRODUCTION

Nowadays, when globalization and competition are key words in the economic environment, Bulgarian small manufacturing companies face the challenge of finding their place in the international market. Their decisions and successes don't affect only their own sustainability and growth, but also have a major impact on the financial well-being and development of the region in which they operate.

In the modern world, the term ‘business’ is the main driver of the economic development and well-being of the regions. Especially in areas such as North-Central Bulgaria, where economic activity often faces significant challenges, small manufacturing firms play a key role in the sustainable development of the region. They not only create jobs and generate income for the local community, but also drive innovation and competitiveness.

The main topic of this article is to study the opportunities for a small manufacturing company like “Benilu Ltd” to enter the international market. And as pointed above, that will be good for the owner and, the economic development of the region. On one hand, the ability of “Benilu Ltd” to establish itself in the global market will contribute to increasing income

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and attracting investments in the region, as well as expanding its positions on the international business map. On another hand, this will help some Bulgarian companies to become even more famous with their natural products that have excellent quality and are certified by proven agencies throughout the world. For the firm is also important to implement the ISO requirements (Gueorguiev & Kostadinova, 2021) to have the necessary recognition on the international market. Also, they have studied the methodology of research of Bulgarian consumers, done by Todorova et al. (2018) to have a better preparation towards the consumers' reaction towards new products. The family has well-arranged their internal business relations and as a result, they have managed to deal with anxiety and creativity in their firm (Beloeva, 2019).

The following sections will present the main characteristics of “Benilu Ltd” – a SWOT analysis will be presented, specific steps that must be taken for successful establishment on the international market will be considered, as well as the peculiarities of the entrepreneurial activity of the company will be presented. Thus, the report will be a valuable tool for entrepreneurs and for foreign trade companies and individuals who are interested in financing and supporting the development of “Benilu Ltd” on the global market.

2. CHARACTERISTICS OF THE ENTREPRENEUR

The owner of Benilu Ltd. is Virginia Centeno. She is a Master student in Management of EU projects and a PhD student in the area of Applied Mathematics in Finances and Price Forecasting of Portfolios. She has received very good support from the academics of the University of Ruse “Angel Kanchev” as this university is well-recognized as an “entrepreneurial university” (Pavlov & Ruskova, 2023). Being a young entrepreneur and having that knowledge, now she wants to expand and make stronger her company.

Benilu Ltd. is a small family company that is passed through the generations. Virginia is the second generation that takes over and leads the company – passed from a father to his daughter. The company is registered back in 2012. They are capable to upgrade the theory of intergenerational businesses, as stated by Pavlov et al. (2017) and Bakracheva et al. (2020) and Pavlov (2022).

From the father's leading, the company benefits with a lot of created and successfully maintained business-partnerships. Now, with her new approach Virginia strives to enter new markets and make more recognizable the Bulgarian natural products. In that process, both – father and a daughter, work in collaboration combining his great experience and her new approaches and understandings.

The headquarter of the company is in the town of Ruse, which is situated on the Danube River, Bulgaria. There are two more facilities – one warehouse in South Bulgaria (Kazalnak) and one in North Bulgaria (Ruse). In Kazanlak is situated company's biggest supplier of raw materials – there are fields with roses, lavender, and more oil flowers. The supplier processes the flowers and extract the oil, and then again processes it into different flowers' oils and aroma waters. The products and some of the raw materials of the supplier are kept in Kazanlak's warehouse. In Ruse's warehouse some of the production is kept in order to be exploited and adapted according to the customers' requirements, and also other raw materials like bottles, foil, jars, etc.

The company is presented and recognized in different Internet sources such as international business portals, Bulgarian portals and registers and social media. Here are presented some of the mentioned above.

Registers:

- Bulgarian Commercial Register: <https://shorturl.at/eorxU>

- Papagal.bg: <https://papagal.bg/eik/201933182/63de>
- Business Portals:
- Europages: <https://shorturl.at/lxYZ6>
 - Alibaba: <https://bg1009442273.m.fm.alibaba.com/>
 - MarketKonekt: <https://shorturl.at/wHRZ2>
 - Companiess: <https://shorturl.at/astOT>
 - eWorldTrade: <https://shorturl.at/BDEH5>
 - 21food.com: <https://www.21food.com/showroom/254260/>
- Social media:
- Facebook: <https://www.facebook.com/allorganica/>.

The main goal of the company is to make Bulgarian natural products, such as cosmetics, perfumes, and food, more popular in the world. So far, the company has approached countries from Europe, Middle East, and Asia and more exactly - Germany, Spain, Netherlands, Turkey, Saudi Arabia, Japan, Korea, Taiwan, China.

The company requires from its suppliers that all raw materials are certified at least from two agencies. The products are carefully made and packed in materials that are good for people's health. Moreover, the company strongly insist to fulfill their clients' requirements – certain cosmetics, perfumes or honey are produced specially for each client, and also packages are specially created in the form required from the client. At the end, their clients get not only real natural products, but unique product (material, size and form of the packages) and personal attention for every client.

Because of every small detail that the company strives to fulfill, their customers remain satisfied from the services and the products. This is the reason that the clients of Benilu Ltd. are coming back each time when they need cosmetics, perfumes or honey.

For Benilu Ltd. there is a tendency showing that every satisfied customer (seller) spreads the word for the products and the excellent services to other sellers, and then new customers appear for the company. That shows that the clients of the company are not only satisfied, but they have high trust in the company.

The manager of the company "Benilu" Ltd. has focused on the acquisition and production of various types of legally permitted goods and other materials (including agricultural products originating from plant and animal sources) with two goals:

- their subsequent commercial processing in original, processed or processed form;
- subsequent successful sale.

In the recent years the manager of the company has increased the services, provided by the firm offering:

- consulting;
- intermediary;
- commercial representation: covers areas such as advertising, publishing, information services, intellectual property transactions, marketing, management, and engineering;
- transport: forwarding, warehouse;
- foreign trade: international transport by water, air and road;
- re-export activities;
- financial: financial and accounting activities, barter transactions in accordance with the law.

The mentioned enterprise is a family business, which is positioned both on the Bulgarian and international markets. The family's vision is to be of maximum benefit to its

local and international partners by providing high-quality products and services, always applying the latest trends and technologies in the field of products and services they offer.

3. SWOT ANALYSIS

The SWOT analysis presents a complex picture of the current state of an organisation and could help the managers to take better decisions regarding management strategies. SWOT analysis is an extremely useful tool for understanding different business situations and making the right decisions. It provides the necessary framework for reviewing the organizational strategy and direction of development at the “organization” level, but also at the “department”, “project”, “business proposal” or “idea” level (Kotsev et al., 2012).

The **strengths** of “Benilu” Ltd. are in deferent. Some of them are:

- Multilingual speaker – the business owner speaks couple of languages – Bulgarian, English, German, Spanish, Italian, Greek and Romanian.
- Leadership skills – the manager has strong leadership skills and is capable of rapidly taking decisions in harsh moments for the company.
- Great speaking and sociable skills – the manager lead excellent communication with potential suppliers and clients. Also, the owner is able to easily convince and proof that the company is the best choice that an investor can make.

Also, this company has some **weaknesses**:

- Lack of own production property for the natural cosmetics
- Family business in which there is no big number of permanent employees.

Thanks to the optimistic approach of the entrepreneur, the company management has identified many **opportunities**:

- The company has a strong presence in different professional business e-portals such as Alibaba and Europages, which allows to be "visible" to its potential customers - those to whom they process and/or sell the goods, as well as those who buy goods from them.
- The company is led by a daughter with the dedicated support of her father, with whom they work together in a team.
- An agronomist-specialist from the family, who is from Nicaragua, can be part of the business. In this way, in addition to having an expert opinion, the company will also have contacts and trade opportunities in Nicaragua, as well as an opportunity to diversify the goods that they offer.
- Benilu Ltd. can attract customers who are looking for healthy, natural, and authentic products.
- The company has 2 warehouses - one in South Bulgaria - near one of the biggest suppliers of the company and one in North Bulgaria. This allows the company to have a larger access to different ways of transporting the goods.
- Local political decisions can push the company forward by supporting the company's participation in programs to implement modern and innovative technologies.
- The government, in person of the local administration and in particular the local Chamber of Commerce and Industry, offers appropriate European programs aimed at the competitiveness of the enterprise.

The family is also aware the external environment is a source for different risks, too. Some of the **threats** are:

- A competing company may attract and steal key employees.

- Risk of supply reduction, in favour of the company, because of increased requirements for supplier certification.
- Increased inflation worldwide would lead to an increase in the price for the customers.
- The change in tax legislation can also reflect on the price of the product, e.g. export of goods, VAT on materials.
- The lack of support and initiatives for support and development, as well as the lack of European and other financial funds to support micro-enterprises, can have an impact on the company as well.
- Political instability can also be a factor in the lack of realization of the finished product.

4. STEPS FOR BUILDING SUCCESSFUL BUSINESS PARTNERSHIP

Having in mind all these strengths, weaknesses, opportunities and threads, the company can benefit and take some actions towards establishing and expanding its positions on the international business map. All steps are going to be presented in the next lines. Each of the actions' sections is defined by the four possible combinations: Strengths & Opportunities, Weaknesses & Opportunities, Strengths & Threads, Weaknesses & Threads.

Actions, according to the relation **Strengths-Opportunities**:

- The company should take actions to find new customers in other countries.
- To develop and maintain good business partnerships with producers from Nicaragua.

Actions, according to the relation **Weaknesses-Opportunities**:

- The company should take steps to create its own production property.
- To consider various Bulgarian or European projects for which the company is eligible to apply and can be financed for the creation of the production property.
- To increase the number of the constantly employed staff.
- To agree such terms with the company's largest supplier, under which the company can use part of the supplier's facilities and buildings.

Actions, according to the relation **Strengths-Threads**:

- Benilu Ltd. should search for new suppliers.
- To search for investors who are interested in this field and want to invest in eco-friendly companies and projects.

Actions, according to the relation **Weaknesses-Threads**:

- Benilu Ltd. must provide employees who are available when needed (temporarily employed) and must avoid long-term staffing and lack of employees at a given moment.

The described actions could have significant improvements on the main goal of the firm about entering the international market as a small Bulgarian producer of bio products, which are made by rose oil and rose water.

5. CONCLUSION

Nowadays, where the economic environment is volatile and the competitive battle is fought on a global level, entering the international market represents a vital stage for small manufacturing companies. For regions like North-Central Bulgaria, it represents not only an

opportunity for innovation and development, but also for stimulating economic activity and creating new jobs.

The process of going international can be challenging, but it is also full of opportunities for growth and success. Through well-constructed marketing strategies, product development and creating business partnerships, small manufacturing companies can establish themselves in the global market and expand their influence.

The company "Benilu Ltd." has the potential to establish itself in the international market by using its strengths and opportunities, but also by avoiding its weaknesses and threats. In this way, it can contribute to strengthening the economic development and well-being not only of itself, but also of the region in which it is based.

The success of small manufacturing companies in the international market depends on their ability to adapt to changing conditions and take advantage of the opportunities that are offered. With the right strategy and commitment to innovation and quality, they can achieve significant success and establish themselves as important players in the global business scenario.

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ANALYSIS OF THE FREQUENCY AND FORM OF GENDER-BASED DISCRIMINATION IN THE BUSINESS ENVIRONMENT IN THE REPUBLIC OF SERBIA

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Abstract: The development of human consciousness and raising it to an enviable level encourages the eternal struggle between good and bad, i.e. ethically and morally (in)correct, which required the development of a special scientific discipline – “Ethics”. Moral dilemmas in this sense also find their place in the field of work, which forced the development of a special branch of ethics – “Business ethics”, which deals with numerous challenges and problems that arise in the business world. A global problem that is present every day in this domain, among others, is gender discrimination. In this regard, it is necessary to look back at the mentioned problem and open a topic that today has become very sensitive. The theoretical part of this paper includes, business ethics, its meaning and development are considered on the one hand, and on the other hand, the paper is dedicated to the concept of discrimination, its historical development, forms and problems that, primarily, women face in the business world. In support of this, research was conducted with a focus on gender discrimination in the field of work. The goal of the research part of the work is to determine the perceptions of the population of the Republic of Serbia about the mentioned problem. The data was collected using the survey method. The results of descriptive statistics indicated the respondents' awareness of the frequency of the observed problem, their personal attitudes and experiences. A comparative analysis of the received answers was also performed depending on the demographic characteristics of the respondents. In this way, an answer is obtained to the question of whether the surveyed population recognizes this modern ethical challenge and what it entails.

Keywords: ethics, business ethics, discrimination, gender-based discrimination.

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ANALIZA UČESTALOSTI POJAVE I OBLIKA RODNO ZASNOVANE DISKRIMINACIJE U POSLOVNOM OKRUŽENJU U REPUBLICI SRBIJI

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Izvod: Razvoj ljudske svesti i podizanje iste na zavidni nivo, podstaklo je većitu borbu između dobrog i lošeg, odnosno etički i moralno (ne)ispravnog, što je doprinelo razvoju posebne naučne discipline – etike. Moralne dileme svoje mesto pronalaze i u oblasti rada, pa je u skladu sa tim nastala grana etike koja se naziva poslovna etika. Poslovna etika se bavi brojnim izazovima i problemima koji se javljaju u poslovnom svetu. Jedan od najučestalijih u ovom domenu, između ostalih, jeste rodna diskriminacija. S tim u vezi, neophodno je osvrnuti se na pomenuti problem i otvoriti temu koja je danas postala veoma “osetljiva”. U teorijskom delu rada sagledani su: poslovna etika i njeno značenje i razvoj sa jedne strane, a sa druge, rad je posvećen pojmu diskriminacije, njenom istorijskom razvoju, oblicima i problemima sa kojima se, prvenstveno, žene suočavaju u poslovnom svetu. U prilog tome, izvršeno je istraživanje sa fokusom na rodnu diskriminaciju u oblasti rada. Cilj istraživačkog dela rada je utvrditi percepcije stanovništva Republike Srbije o pomenutom problemu. Podaci su prikupljeni metodom anketiranja. Rezultati deskriptivne statistike su ukazali na svest ispitanika o učestalosti posmatranog problema, njihove lične stavove i iskustva. Izvršena je i uporedna analiza dobijenih odgovora u zavisnosti od demografskih karakteristika ispitanika. Na ovaj način se dobija odgovor na pitanje da li ispitano stanovništvo prepoznaje ovaj savremeni etički izazov i šta on, po njihovom mišljenju, podrazumeva.

Ključne reči: Etika, poslovna etika, diskriminacija, rodno zasnovana diskriminacija.

1. UVOD

Razvoj ljudske populacije i borba za opstanak usloveli su društvenu podelu rada, pri čemu su muškarci bili zaduženi za obezbeđivanje egzistencije, a žene za brigu o porodici. Vekovima unazad, žene su bile nipodištavane prvenstveno po osnovu obrazovanja, a kasnije i privređivanja, čemu su društveni pokreti poput feminizma stali na put. Međutim, iako je 21. vek, još uvek postoji tiha diskriminacija žena, naročito u oblasti rada, čemu svedoče brojna istraživanja, a ovaj rad ima za cilj da potvrdi ili negira postavljenu hipotezu. Za proveru postavljenih hipoteza i izučavanje pomenutog savremenog društvenog problema, korišćene su dve društvene nauke i reč je o etici i poslovnoj etici.

Etika potiče od grčke reči *ethos*, što u prevodu znači običaj, te se može reći da se etika sastoji iz mnoštva verovanja, stavova i standarda koji rukovode uobičajenim ponašanjem. Prema definiciji, etika predstavlja: *nauka o moralu koja se bavi ispitivanjem morala: težeći da ga opiše, objasni i razume; nastojeći da jasno utvrdi, formuliše principe i pravila kojima se treba rukovoditi, odnosno šta treba činiti i kojih se principa pri tom treba pridržavati* (Voza et al., 2020). S tim u vezi, bitno je istaći da je etiku moguće razumeti, samo razumevanjem standarda koji su usvojeni ili nametnuti od strane društva, porodice ili crkve.

U poslovnom svetu, organizacije su u konstantnoj borbi između zadovoljenja svojih potreba i potreba svojih zaposlenih, što rezultira brojnim etičkim dilemama pri donošenju

odluka i (ne)etičkim postupanjem, što je zahtevalo razvoj posebne naučne discipline tj. grane etike, za rešavanje ovog problema i reč je o poslovnoj etici.

Poslovna etika, čini deo etike i ima značajnu ulogu u poslovanju organizacija prilikom izbora između ekonomskih i ličnih moralnih načela, u cilju dugoročnog rasta, razvoja i sticanja dobiti. Pre poimanja poslovne etike, potrebno je osvrnuti se i na pojam „*profesionalna etika*”, koja se često poistovećuje sa poslovnom etikom, iako ova dva pojma nisu sinonimi. Dakle, profesionalna etika predstavlja skup pravila i kodeksa koja organizacija donosi u skladu sa svojim poslovanjem, te se praktično može razlikovati od organizacije do organizacije, dok je poslovna etika deo primenjene etike, što kao što i sama reč kaže, podrazumeva primenjivost morala u različitim oblastima društvenog života (Stojanović Prevelić, 2018).

Brojni autori, ne mogu se konkretno složiti između tačne definicije poslovne etike, ali se iz mora istih izdvaja ona koju predlaže Laura Neš: „*poslovna etika podrazumeva proučavanje ličnih moralnih normi koje organizacije primenjuju na svoje aktivnosti radi ostvarenja sopstvenih ciljeva*“ (Joseph, 2006).

Prvi tragovi poslovne etike, javljaju se u Antičkom dobu, o čemu su govorili Ciceron i Aristotel (Petrušić & Beker, 2012), a prvi pisani tragovi zabeleženi su 1974. godine na konferenciju u Kanzas univerzitetu, kada je poslovna etika prvi put dokumentovana u udžbenicima i počela da se izučava kao samostalna naučna disciplina (Voza et al., 2020).

2. TEORIJSKI OKVIR

2.1. Diskriminacija i rodno zasnovana diskriminacija

Diskriminacija podrazumeva negodovanje nečega što je drugačije, nesvakidašnje ili društveno neprihvatljivo, što rezultira povredom osnovnih ljudskih prava, a kao posledica straha zasnovanog na stereotipima, predrasudama ili generalizaciji (Flowers, 2009). S tim u vezi, navedeni su neki od osnovnih uzroka diskriminacije: podsticaj na diskriminatorno ponašanje, stereotipi (pogrešna slika ljudi na osnovu netačnih, nepotpunih informacija ili dezinformacija) i predrasude (najopasniji vid uzroka diskriminacije, zasnovane na emocijama, kao posledica vaspitanja, straha, neznanja ili mišljenja drugih ljudi (Petrušić & Beker, 2012). Sve prethodno navedeno, prouzrokuje diskriminatorne prakse, koje za sobom ostavljaju brojne posledice poput smanjena motivacija, produktivnost, ugroženu egzistenciju, pogoršano fizičko i psihičko zdravlje, suicidalne misli i radnje itd. (Petković & Kodovšek, 2011). Literatura beleži razne oblike diskriminacije poput: diskriminacije na osnovu rase, etičke pripadnosti i kulture, vere, invaliditeta, seksualnog opredeljenja i na osnovu pola na kome će biti stavljen fokus ovog rada (Flowers, 2009).

Pre samog poimanja diskriminacije, osvrnućemo se i na pojam rodne ravnopravnosti. Prema Zakonu o rodnoj ravnopravnosti RS, ona podrazumeva uvažavanje jednakih prava muškaraca i žena u svim područjima privatnog i poslovnog života (Perišić-Pavlović, 2009). Radi lakšeg razumevanja ovog pojma, napravićemo razliku između pojmova pol (*eng. sex*) i rod

(*eng. gender*). Pol predstavlja urođenu biološku karakteristiku osobe i ogleda se u genitalijama i reproduktivnoj funkciji čoveka, dok rod koji može biti muški ili ženski, uključuje uloge tj. očekivanja koja se osobi nameću na osnovu biološke karakteristike tj. pola (Ćopić, 2016). Iako postoje neosporne razlike u tom pogledu, iste se ne mogu uzeti kao bilo kakvo opravdanje za diskriminaciju muškaraca ili žena, naročito u oblasti rada.

2.2. Diskriminacija žena u oblasti rada

Diskriminacija žena je diskriminacija na osnovu pola, polnih karakteristika, tj. roda što predstavlja svako neopravdano razlikovanje, nejednako postupanje, isključivanje ili ograničavanje, na direktan ili indirektan način u odnosu na druga lica ili grupe lica (Bačanović & Stojadinović, 2022). Diskriminacija žena, često je posledica njihovih urođenih karakteristika (pola) i prožima se kroz sve prethodno pomenute oblike diskriminacije, između ostalog i u oblasti rada.

Diskriminacija u oblasti rada podrazumeva odnos poslodavac – zaposleni i uključuje nejednak ili različit tretman poslodavca prema zaposlenom, zasnovan na irelevantnim kriterijumima (Joseph, 2006), što rezultira diskriminatornim praksama poput: ograničena mobilnost, pronalazak posla, nejadnake zarade, sklapanje braka i rađanje dece, vođenje posla i dobijanje penzije (Sanchari, 2019), postavljanje intimnih pitanja pri razgovoru za posao, neprilagođeni uslovi rada, seksualno uznemiravanje (verbalno i fizičko) itd.

3. ISTRAŽIVAČKI DEO

3.1. Metodologija istraživanja

Cilj samog istraživanja bio je utvrditi percepciju, stavove i lična iskustva stanovnika Republike Srbije u vezi sa rodno zasnovanom diskriminacijom na radnom mestu, a rezultati istog beleže interesantne rezultate, opisane deskriptivnom analizom. Za potrebe istraživanja, korišćena je anketa, kao jedan od osnovnih instrumenata prikupljanja podataka [11], pri čemu je ovde reč o virtuelnoj anketi sprovedenoj *online* putem “Google upitnika”.

Svaka anketa, sastoji se iz seta pitanja, na koja ispitanici daju svoje odgovore, pri čemu na raspolaganju imamo dve vrste pitanja [11]:

- Zatvorenog tipa (ispitanici biraju jedan ili više ponuđenih odgovora).
- Otvorenog tipa (ispitanici samostalno formiraju svoj odgovor u vidu par rečenica ili pasusa).

U istraživanju je učestvovalo 200 ispitanika, različitog pola, starosne dobi, nivoa obrazovanja i statusa zaposlenosti. Ispitanici su odgovarali na naredne četiri kategorije pitanja, čiji su rezultati predstavljeni deskriptivnom analizom u nastavku rada:

- Percepcija diskriminacije (3 pitanja zatvorenog tipa),
- Stav o diskriminatornom ponašanju (2 pitanja zatvorenog tipa),
- Radna mesto i razvoj karijere (5 pitanja zatvorenog tipa)
- Lična iskustva (3 pitanja, kombinacija pitanja zatvorenog i otvorenog tipa gde su ispitanici svojevolumeno, naveli neki svoj lični primer iz prakse).

Takođe, za potrebe istraživanja, korišćena je i ANOVA analiza (eng. *Analysis of variance*) koja omogućuje testiranje značajnosti između aritmetičkih sredina iz tri i više uzorka, kao i testiranje uticaja jednog ili više faktora na varijabilitet nekog testiranog numeričkog obeležja, te razlikujemo jednofaktorsku i višefaktorsku analizu varijanse (Todić, 2014).

3.2. Deskriptivna analiza

Deskriptivna analiza, obuhvata predstavljanje rezultata istraživanja, prilikom čega su istaknuta pojedina pitanja u okviru gore navedenih kategorija, koja su izazvala najveću pažnju i interesovanje prilikom analize odgovora ispitanika.

Prvo pitanje, prikazano u Tabeli 1 u okviru kategorije pitanja “Percepcija diskriminacije”, na koje su ispitanici odgovarali ocenama od 1 do 5, po sistemu ocena u srednjoj školi, ukazuju da 35,5% ispitanika visoko ocenjuje (4) prisutvo diskriminacije u oblasti rada, dok 34% istih nema mišljenje (3) o istraživanom fenomenu, dok 19% istih visoko ocenjuje (5) prisustvo posmatranog fenomena.

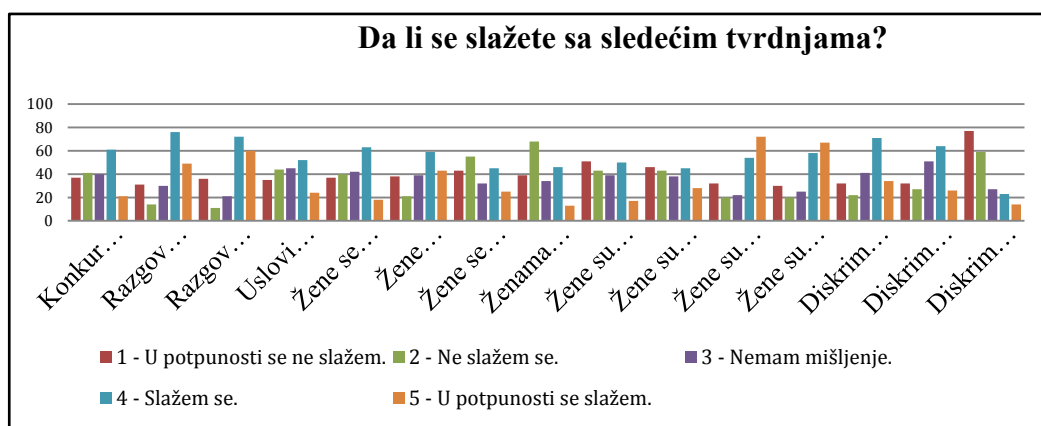
Tabela 1. Pitanje 1 - U kojoj meri je po vašem mišljenju diskriminacija na radnom mestu zastupljena u Srbiji?

Skala ocene	1	2	3	4	5
Muškarci	3	16	18	27	18
Žene	2	3	45	44	20
Σ	5	18	63	71	38

Treće pitanje ove kategorije “Da li je neko od vaših bližnjih doživeo diskriminaciju na radnom mestu?”, beleži interesantan podatak, koji potvrđuje pretpostavku o prisutnosti rodno zasnovane diskriminacije na random mestu, sa 56,5% ispitanika koji poznaju neku osobu, koja je doživele neki vid diskriminacije, što je poražavajuć, ali ne i iznenađujuć podatak.

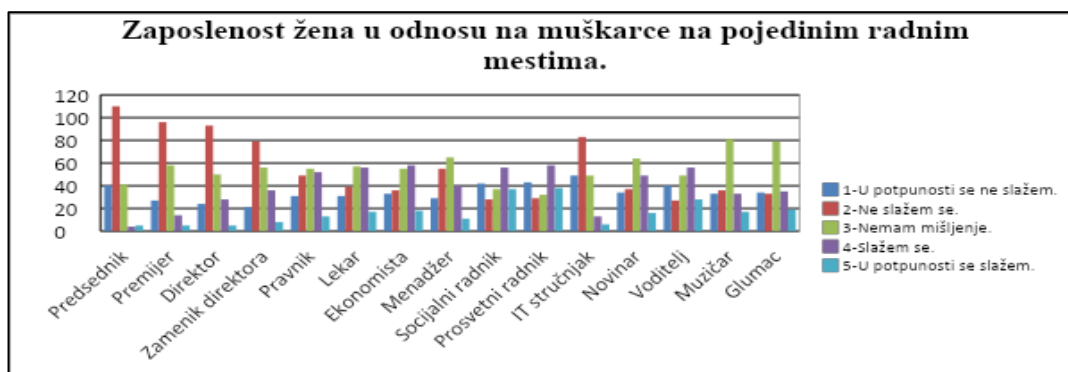
Druga kategorija pitanja “Stav o diskriminatornom ponašanju”, obuhvatala je set tvrdnji prikazane na Slici 1. koje ističu diskriminatorne situacije, koje su ispitanici ocenjivali primenom Likertove petostepene skale, gde 1 označava potpuno neslaganje sa tvrdnjom, a 5 potpuno slaganje sa istom.

Tako npr. Tvrdnje poput “Žene su više izložene seksističkim komentarima na random mestu.” ili “Žene su više izložene seksualnom uznemiravanju na random mestu”, izazivaju potpuno slaganje od strane ispitanika, nevezano da li govorimo o mišljenju muškaraca ili žena. Na takav način, potvrđuje se teorijsko sagledavanje ispitanog problema tj. veću izloženost žena, kada je reč o zadatoj temi.



Slika 1. Grafički prikaz odgovora ispitanika na zadatke tvrdnje.

Treća kategorija pitanja “Radna mesta i razvoj karijere”, interesovanje beleži kod pitanja u vezi sa prisustvom žena na različitim radnim mestima, a koje je prikazano na Slici 2. Po mišljenju ispitanika, primećuje se veća zastupljenost muškaraca u odnosu na žene, na vodećim pozicijama poput predsednika, premijera ili direktora, ili u okviru IT sektora, dok je veća prisutnost žena zabeležena na radnim mestima poput socijalnog ili prosvetnog radnika, što i nije iznenađujuć podatak, ako u obzir uzmemo biološku karakteristiku žena.



Slika 2. Zaposlenost žena u odnosu na muškarce na pojedinim radnim mestima.

Četvrto pitanje ove kategorije, “Žene su ograničene po pitanju razvoja karijere, u odnosu na muškarce.”, na koje su ispitanici odgovarali takođe ocenama od 1 do 5, beleži sledeće podatke. Ispitanici, još jednom potvrđuju postavljenu hipotezu, uzevši u obzir da je gotovo polovina 41,5% istih pozitivno odgovorilo (ocenama 4 ili 5) na pitanje o ograničenosti žena po pitanju razvoja karijere, dok je 28,5% nema mišljenje. Pretpostavka ovakvog odnosa ocena, ogleda se u tome, da ispitanici smatraju da su žene u određenoj meri ipak ograničene po pitanju ove tvrdnje, što može biti posledica balansiranja poslovnog i porodičnog života. Iznenadjujuć podatak ukazuje je da veliki procenat ispitanika 18,5% iskazuje negodovanje ove tvrdnje i to naročito od strane muškaraca.

Kada je reč o ličnom iskustvu, kao poslednjoj kategoriji pitanja u okviru ankete, ohrabrujuć je podatak da 58,5% ispitanika nije lično doživelo ni jedan oblik diskriminacije na random mestu, dok je preostali procenat istih, ravnomerno raspoređen na ostale oblike diskriminacije na način prikazan u Tabeli 2.

Tabela 2. Lična iskustva ispitanika.

Odgovor	Prilikom zasnivanja radnog odnosa.	Prilikom obavljanja radnih aktivnosti.	Prilikom prestanka radnog odnosa.	Sve navedeno.	Nisam doživeo/la.
Muškarci	6	13	0	4	55
Žene	13	22	3	3	62
ΣOdgovora	29	53	15	9	117

Preostao procenat ispitanika, relativno srazmerno daje svoje odgovore, sa većom dominacijom onih 26,5%, koji ističu diskriminaciju prilikom obavljanja radnih aktivnosti. Znatno manji procenat 14,5% ispitanika iskusio je diskriminaciju prilikom zasnivanja radnog odnosa. Diskriminacija prilikom prestanka radnog odnosa, nešto je manje zastupljena 7,5%, dok je ohrabrujuće da je opcija „Sve navedeno“ imala najmanji odaziv 4,5%.

3.3. Analiza uticaja pola na percepciju ispitanika o rodno zasnovanoj diskriminaciji

ANOVA analiza korišćena na dve kategorije pitanja, radi utvrđivanja postojanja statistički značajnog uticaja pola ispitanika na odgovore ispitanika, bazira se na izračunavanju stepena statističke značajnosti (*Sig.*), koji ukoliko iznosi manje od 0,05, ukazuje na prisustvo statističkog značaja i obrnuto, a rezultati same analize prikazani su u nastavku.

Podaci dati u Tabeli 3 usmereni su na kategoriju pitanja “*Percepcija diskriminacije*” (u nastavku PD), koja se sastojala iz ukupno tri pitanja, gde na osnovu priloženog, zaključujemo odsustvo statističkog značaja s obzirom da je koeficijent *Sig.* veći od 0,05.

Tabela 3. Uticaj pola ispitanika na prvu kategoriju pitanja – PD

		Sum of Squares	df	Mean Square	F	Sig.
PD_1	Between Groups	1.715	1	1.715	1.802	.181
	Within Groups	188.480	198	.952		
	Total	190.195	199			
PD_2	Between Groups	.744	1	.744	1.426	.234
	Within Groups	103.336	198	.522		
	Total	104.080	199			
PD_3	Between Groups	.665	1	.665	1.526	.218
	Within Groups	86.290	198	.436		
	Total	86.955	199			

- PD1 “*U kojoj meri je po vašem mišljenju diskriminacija na radnom mestu zastupljena u Srbiji?*” - 0.18;
- PD2 “*Da li ste vi iskusili diskriminaciju na radnom mestu?*” - 0,234;
- PD3 “*Da li je neko od vaših bližnjih doživeo diskriminaciju na radnom mestu?*” - 0,218.

Druga kategorija pitanja “*Stavovi o diskriminatornom ponašanju*” (u nastavku ST), prikazana u Tabeli 4, podeljena je na dve podkategorije ST1 i ST2.

Tabela 4. Uticaj pola ispitanika na drugu kategoriju pitanja – ST.

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
ST1_1	Between Groups	12.587	1	12.587	7.772	.006
	Within Groups	320.693	198	1.620		
	Total	333.280	199			
ST1_2	Between Groups	10.923	1	10.923	6.161	.014
	Within Groups	351.057	198	1.773		
	Total	361.980	199			
ST1_4	Between Groups	29.426	1	29.426	19.319	.000
	Within Groups	301.594	198	1.523		
	Total	331.020	199			
ST1_6	Between Groups	21.733	1	21.733	11.607	.001
	Within Groups	370.747	198	1.872		
	Total	392.480	199			
ST1_7	Between Groups	23.888	1	23.888	14.013	.000
	Within Groups	337.532	198	1.705		
	Total	361.420	199			
ST1_8	Between Groups	12.934	1	12.934	9.092	.003
	Within Groups	281.686	198	1.423		
	Total	294.620	199			
ST1_9	Between Groups	24.662	1	24.662	15.178	.000
	Within Groups	321.733	198	1.625		
	Total	346.395	199			
ST1_10	Between Groups	15.293	1	15.293	8.343	.004
	Within Groups	362.927	198	1.833		
	Total	378.220	199			

ST2_2	Between Groups	9.369	1	9.369	16.183	.000
	Within Groups	114.626	198	.579		
	Total	123.995	199			
ST2_4	Between Groups	6.219	1	6.219	11.913	.001
	Within Groups	103.361	198	.522		
	Total	109.580	199			
ST2_6	Between Groups	5.374	1	5.374	7.337	.007
	Within Groups	145.021	198	.732		
	Total	150.395	199			
ST2_9	Between Groups	4.608	1	4.608	6.463	.012
	Within Groups	141.187	198	.713		
	Total	145.795	199			

Podkategorija ST1 *“Da li se slažete sa sledećim tvrdnjama?”*, usmerena je na stavove ispitanika po pitanju određenih tvrdnji u vezi sa rodno zasnovanom diskriminacijom na radnom mestu. ANOVA analiza, ukazuje na značajnost uticaja pola ispitanika kod određenog broja tvrdnji, s obzirom da rezultati analize, beleže koeficijent Sig. manji od 0,05 i to kod sledećih tvrdnji:

- ST1_1 *“Konkursi za posao stavljaju u nepovoljan položaj žene u odnosu na muškarce.”* - 0,006.
- ST1_2 *“Razgovor za posao kod žena uključuje više pitanja o bračnom i porodičnom statusu.”* - 0,014.
- ST1_4 *“Uslovi rada su više prilagođeni muškarcima nego ženama.”* - 0,000.
- ST1_6 *“Žene češće dobijaju otkaz zbog uzimanja bolovanja radi brige o deci.”* - 0,001.
- ST1_7 *“Žene se raspoređuju na nižim pozicijama u odnosu na muškarce.”* - 0,000.
- ST1_8 *“Ženama je uskraćen ili ograničen napredak u karijeri.”* - 0,003.
- ST1_9 *“Žene su manje plaćene od muškaraca za obavljanje istog posla.”* - 0,000.
- ST1_10 *“Žene su ograničene po pitanju odevanja na radnom mestu, zbog svog tela.”* - 0,004.

Druga podkategorija ST2 *“Da li sledeće situacije predstavljaju diskriminaciju na radnom mestu?”*, imala je za cilj da proveriti stavove ispitanika po pitanju određenih diskriminatornih situacija na radnom mestu. Statistička značajnost uticaja pola ispitanika na odgovore, proverena je po istom principu kao i kod prethodno obrađene kategorije ST1.

Imajući u vidu, da je postojanje statističkog značaja potvrđeno ukoliko je koeficijent Sig. manji od 0,05, izdvojile su se određene tvrdnje kod kojih je to slučaj:

- ST2_2 *“Poslodavac zapošljava muškarca, iako žena ima viši stepen obrazovanja.”* – 0,000.
- ST2_4 *“Poslodavac ne zapošljava ženu zbog pretpostavke o čestom odsustvu sa rada radi brige o porodici.”* – 0,001.
- ST2_6 *“Poslodavac otpušta radnicu zbog čestog otvaranja bolovanja.”* – 0,007.
- ST2_9 *“Poslodavac unapređuje ženu na bolje radno mesto, iako muškarac ima bolje rezultate rada.”* – 0,012.

4. DISKUSIJA

Ukoliko se osvrnemo na priloženu tabelu 3. u vezi sa kategorijom pitanja „*Percepcija diskriminacije*“, jasno se može uočiti odsustvo uticaja pola ispitanika na rezultate istraživanja, kod sva tri pitanja, uzevši u obzir da je koeficijent *Sig.* u sva tri slučaja, veći od 0,05. S tim u vezi, zaključujemo da ova kategorija pitanja ima neznatan uticaj na rezultate ispitivanja, sa aspekta pola ispitanika, te se neće uzeti u dalje razmatranje. Pretpostavka leži u objektivnosti posmatranih tvrdnji koje ne izazivaju reakciju ispitanika u zavisnosti od pola istih.

Kada je reč o kategoriji pitanja „*Stav o diskriminatornom ponašanju*“, u ovom slučaju podeljena na dve podkategorije ST1 i ST2, na osnovu dobijenih rezultata priloženih u tabeli 4, potvrđuje se statistički značaj uticaja muškaraca i žena na rezultate ispitivanja kod gore navedenih tvrdnji, dok su ostale tvrdnje zanemarene.

S obzirom da je kod istaknutih tvrdnji, u vezi sa podkategorijom ST1 koeficijent *Sig.* manji od 0,05, sa sigurnošću možemo reći da je dokazana međuzavisnost odgovora i pola ispitanika. Ovakvi rezultati, mogu biti posledica osetljivosti ili privrženosti pola ka datim tvrdnjama sa jedne strane, sa pretpostavkom da je uticaj pola zabeležen kao posledica ličnog iskustva ispitanika.

U slučaju podkategorije ST2, slično kao i kod prethodne kategorije pitanja, navedene tvrdnje imaju određen statistički značaj uticaja pola na odgovore ispitanika, s obzirom da je koeficijent *Sig.* i u ovom slučaju manji od 0,05. S tim u vezi, zaključuje se da način na koji su izdvojene tvrdnje formulisane doprinose takvim rezultatima ANOVA analize, uz pretpostavku da je to posledica uticaja ličnog iskustva ispitanika s jedne strane ili realnog sagledavanja situacije sa druge.

Imajući u vidu rezultate koje je ANOVA analiza reprezentovala kod druge kategorije pitanja, generalno posmatrano, možemo zaključiti da postoji statistički značaj uticaja pola ispitanika na određene aspekte upitnika, čime se potvrđuje pretpostavka međuzavisnosti pola ispitanika i rezultata istraživanja.

5. ZAKLJUČAK

Konstanta borba između ispravnog i neispravnog, izaziva određene etičke dileme koje zahtevaju svoje rešenje, gde na snagu stupa etika koja obuhvata mnoštvo definisanih moralnih standarda i kriterijuma kojih se treba pridržavati.

Kada je reč o poslovnom svetu, tu na snagu stupa poslovna etika koja ima za cilj da balansira između ostvarenja ekonomskih ciljeva kompanije sa jedne strane i individualnih ciljeva zaposlenih sa druge, uz prevazilaženje svih etičkih problema, između ostalog i diskriminacije koja i pored definisanih mehanizama odbrane, nažalost ipak postoji. Potrebno je definisati, kompromisna pravila, koja će obezbediti jednakost i dostojanstvo svih učesnika, bilo u privatnom ili poslovnom odnosu.

Kako je srž svih etičkih problema današnjice ljudska svest, koja nema svoja ograničenja, moramo razumeti da nešto što je drugačije, ne mora nužno biti i loše. Pored toga, kako svi težimo da budemo posebni, moramo razumeti da posebnost uključuje različitost tj. jedno ne ide bez drugog. S tim u vezi, predložena su neka od ključnih rešenja ovog savremenog problema sadašnjice:

- poboljšanje poslovnih odnosa, promena i modernizacija ljudske svesti, prihvatanjem da ono što je drugačije, ne mora nužno biti i loše, kao i da promena polazi od nas samih.
- Emotivna zrelost, empatija i razumevanje.

- Želja za kompromisom i saradnjom u cilju zadovoljenja sopstvenih i tuđih interesa.

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REVERSE VENDING MACHINE. A RASPBERRY PI APPLICATION

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Abstract: In 2018, about 1.4 billion beverage containers were sold worldwide. Almost 82.9% of all containers were made of glass, polyethylene terephthalate (PET), or aluminum. Despite the high reusable ability of all three materials, most beverage containers sold around the world end up in landfills. To boost recycling rates, bin reimbursement laws have been passed in 23 countries in recent decades. The work presents the development of a prototype of an automatic container collection machine, low cost, easy to maintain and reliable. The sorting of packaging will be done by barcode and the information will be accessed from the cloud.

Keywords: reverse vending machine, waste management, plastic bottle classification, barcode scanning, EAN-13.

1. INTRODUCTION

The global recycling machine market is highly concentrated. Most of the market is divided by Tomra (Norwegian company), the German company Wincor-Nixdorf and the American company Envipco. Tomra is the leader of the market, with a share of 65%. In terms of details on the methods of recognizing beverage containers used in their retail vending machines, companies do not provide details (Tomra, 2022; Tomari et al., 2017).

A RVM appliance must be able to recognize the material of the beverage container and correctly reimburse the storage (Al-Salem et al., 2019; Velez et al., 2017; Wahad et al., 2014). Operating a RVM is simple; a container inserted into the machine is correctly identified, incorrectly identified or unidentified. After successful identification, the deposit must be repaid, and the container is typically sorted by material and crushed to reduce its volume. Incorrect identification of the beverage container, since another container is likely to cause an incorrect return and may lead to unwanted mixing of the containers if the containers are crushed afterwards. Mixing materials can also lock crushers, which are commonly designed for a particular type of material. If the container is unidentified, it must be returned to the user. Identification may fail if the barcode is seriously damaged or lacking, or if the shape of the container cannot be recognized as a result of temporary deterioration or deformation. The returned object may be anything other than a refundable beverage container and such items should not be accepted.

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In order to ensure the correctness of both the material and the return, recognition must be based on several characteristics, such as the shape and weight of the barcode container and the container (Kokoulin, 2019). While barcodes are unique to a product, height, width and volume are also measured to minimize the possibility of cheating the machine with objects that have attached a valid barcode (Beverage Bottle Recycling Machine, Reverse Vending Machine). However, the possibility of fooling the machine cannot be completely eliminated, since a barcode of a refundable container can be attached to a non-returnable container with the correct shape and weight. The container must also be weighed to check whether there are any liquid or heavy foreign objects remaining inside (Wang et al., 2019; Maier et al., 2017). The container deposit must be refunded only if the dimensions match the values in a bar code database and the weight of the beverage container is below the maximum value; otherwise, the container must be returned to the user.

2. LITERATURE REVIEW

The RVM automatic recognition unit developed in this work is designed to accept beverage containers registered in the deposit refund system, maintained by PALPA (Kokoulin 2019). A container can be registered in the system only if it complies with a set of rules of dimensions, materials and marking (Al-Salem et al., 2019; Velez et al., 2017). The guide specifies, for example, the maximum and minimum dimensions, the acceptable standards for barcodes and how to place the barcode. According to (Al-Salem et al., 2019), the guidelines also indirectly define what kind of beverage containers the automatic replacement machine should be able to recognize, as all beverage containers registered in the national deposit refund system can be expected to comply with the guidelines.

The guidelines vary slightly between the different materials for the containers. For glass and PET containers, the accepted height is from 130 mm to 380 mm, and the diameter can vary from 50 mm to 120 mm. In addition, the shape of the container must be cylindrical. For glass containers, the barcode must be placed 10 mm to 230 mm from the bottom of the container, either in a vertical orientation, called a “ladder” orientation, or in a horizontal orientation, known as a “catch fence”, as illustrated in Figure 1.

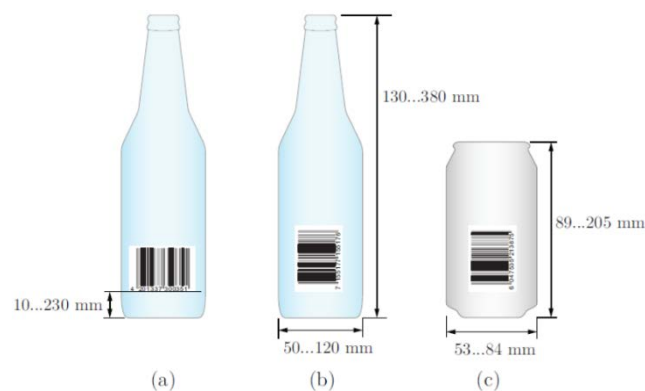


Figure 1. An illustration of the locations of valid barcodes and the dimensions of the packages

In (a), the barcode is vertically oriented. The horizontal position is shown in (b). The dimensions valid for aluminum cans are shown in (c). In aluminum cans and PET bottles, the barcode can only be placed vertically (Al-Salem et al., 2019; Velez et al., 2017; Wahad et al., 2014).

The accepted standards for barcodes for glass containers are EAN-13 (European Item Number), EAN-8, UPC-A (Universal Product Code) and UPC-E and the barcode magnification code must be at least 0,8 (Wang et al., 2019). However, the height of the code can be up to 20% lower than that defined by barcode standards. For PET containers, the barcode guidelines are otherwise identical, but the barcode must always be in the orientation of the scale.

For aluminum cans, the minimum and maximum dimensions were not explicitly specified by PALPA (Velez et al., 2017; Wahad et al., 2014). However, only a limited number of sizes of containers are used in industry. Their heights range from 89 mm to 205 mm and diameters from 53 mm to 84 mm. As in PET containers, the barcode may only need to be in the scale orientation and must be printed in magnification 1.0.

The barcode must be placed at least 10 mm from the base of the container as shown in Figure 1. The accepted standards for barcodes are the same as for glass and PET containers (Velez et al., 2017; Wahad et al., 2014).

The instructions specify the deposit symbols and materials shown in Figure 2. In theory, the warehouse and material of a container could be recognized on the basis of these symbols, thus eliminating the need for an external database of barcodes containing information. In practice, however, large product groups such as imported beverages do not always have these symbols printed on their labels, but such containers are sometimes recorded as reimbursable. Thus, barcode and shape recognition are the only reliable means of recognizing beverage containers of all kinds.



Figure 2. Standardized symbols

The structure and dimensions of all accepted barcode types shall be standardized. Understanding barcode-specific limitations is important for understanding barcode localization and decoding algorithms.

EAN-13 is a barcode standard defined by the GS1 standards organization.

An EAN-13 barcode, illustrated in Figure 3, consists of 13 digits. But the black and white bars in the barcode only encode the digits 2-13. The first digit is a special figure printed left of the real barcode, under the quiet area on the left. There are not bars in the barcode, since it is encoded by digits 2-7, which are placed in the left side of the bar code between special guard models.

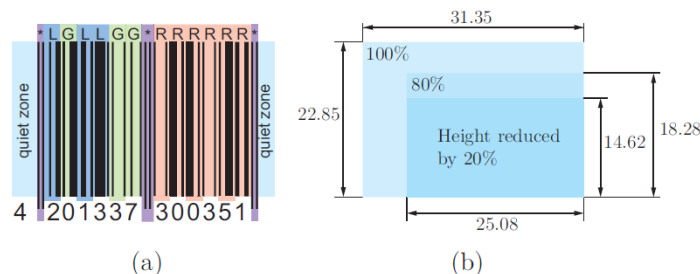


Figure 3. Barcode EAN-13

The different parts of the barcode are highlighted in (A). Guard patterns are marked with a purple color, and an asterisk and blue, green and red mark the edge of the figures. L, G and R represent the different encodings figure. The dimensions of the bar code without quiet

areas in sizes 1.0 and 0.8 are illustrated in (b). The dimensions are in millimeters (Al-Salem et al 2019; Velez et al 2017; Wahad et al 2014).

The EAN-13 standard extends the UPC-A barcode standard while fully compatible with it. Any EAN-13 code with 0 as the first digit is a valid UPC-A code. In UPC-A, each of the six digits to the left of the barcode is encoded in L format and each of the six numbers on the right is similarly encoded in R format (Al-Salem et al 2019). In EAN-13, an additional G-encoding is used to encode the digits to the left of the barcode. While the UPC-A barcode will always be in || format LLLLLL || RRRRRR ||, the EAN-13 format also allows for combinations such as || LGGGLL || The RRRRRR ||, thus allowing the first special digit and increasing the total number of digits by one. The first digit can be deducted from the L and G coding pattern on the left, each of the ten models being assigned its corresponding unique number between 0 and 9. For example, the LGGGLL would correspond to the digit 6 and the UPC-A LLLLLL encoding model corresponds to 0.

In order to solve the project requirements, we propose a constructive solution containing three Raspberry devices connected to the camera; a Raspberry device that acts as a master. Apps can run independently on Raspberry, without the need to connect to a PC. The connection between the four Raspberry dispositive is carried out through a switch. Since there may be problems connecting to the Internet network from different locations, the assembly is also provided with a router (Parv, 2019).

3. MATERIAL AND METHODS

3.1. Hardware resources

The choice of the development board will be made according to certain criteria, given that it can lead to the success of the project, just as an inappropriate choice can lead to failure.

The goal pursued in choosing a development board is to achieve the desired quality at the lowest cost. The desired qualities refer to performance and reliability, and the total cost includes the costs of research, design, construction, testing and repair of the product.

First of all, there is the question of determining the function that a development board must perform in the system. The choice in the catalog of a development board must be made in the idea of using as little additional hardware as possible. After establishing the optimal development plate, the prices, availability, support, existence of development tools and stability of the construction company are checked.

The criteria for choosing a development board are:

- the input lines are sufficient (a number that is too small means that the application cannot be done with this microcontroller, and too many means an excessive cost);
- there are most of the interfaces required by the application (input-output, Analog/Digital or Digital/Analog converters and there are no additional interfaces);
- there is a sufficient capacity to store RAM and ROM;
- the development board has sufficient speed for this application.

In order to choose the sensors and components, aspects such as:

- compatibility with the development board;
- their accuracy to be sufficient for this work;
- reliability;
- supplier support.

A development board is a small computer on a single integrated circuit and aims to solve precise tasks.

Development boards are used in automated products and devices, such as automotive engine control system, implantable medical devices, remote controls, office machines, electrical appliances, power tools, toys and other integrated systems.

3.2. Software resources

The Raspberry Pi development board allows the use of several operating systems, such as: Raspbian; Ubuntu MATE; Kali Linux; CentOS; Windows 10 IoT Core.

For this paper, I chose to use the Raspbian version. The Raspbian operating system is free of charge and is based on a Debian distribution. This system has been created exclusively for the Raspberry Pi. This operating system is very well optimized for arm processors with low performance of microcontrollers of the Raspberry Pi family.

Raspbian uses PIXEL, Pi Improved X Windows Environment Lightweight, as the desktop's primary work environment. It is made up of a modified LXDE desktop environment and open box window manager.

Raspbian is still in active development, with a focus on improving stability and performance.

3.3. RVM – hardware development

The structure we used for the physical realization of the project includes: Raspberry Pi Model B/ Model B+/ 3; 8 GB SD card with Raspbian operating system; Cameras.

The hardware part is composed of Raspberry Pi development boards, cameras located on a perimeter around the return channel of the container imagining the outer surface of a beverage container, while passing by the cameras. A Raspberry is used for image processing (Figure 4).



Figure 4. Physical model

The machine is developed with the help of 4 Raspberry-Pi modules, 3 cameras, an Ether net switch and a router (Figure 5).



Figure 5. Final assembly

3.4. Development and integration of application modules

Given the need to develop the application according to the scheme shown in the previous figure, both the technical requirements and the software used. The following figure shows the application modules (Figure 6).

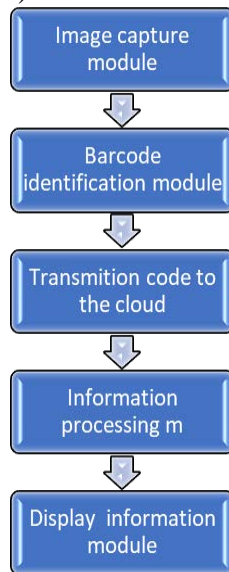


Figure 6. Application modules

3.5. Connecting the four Raspberry. WinSCP

Studying the documentation for the development of similar products, the initial concept was based on a simultaneous image retrieval, on 6 cameras, positioned in a circle. This solution eliminates the risk of not being retrieved the barcode, which may occur when the label is incompletely read.

In order to be able to apply stitching to images, an overlap of at least 15 % between images is required. Although from a theoretical point of view it is possible, attempts to process images have not been successful. Failure can be interpreted by poor image quality.

This led to the adoption of another constructive solution. We connected three cameras to 3 Raspberry. The communication between the 3 Raspberry and the fourth is carried out either through a switch or through a router. I used both variants. The router connection option

was required to create independence when connecting to the cloud. For connection I chose the variant of a SCP technology (Figure 7).

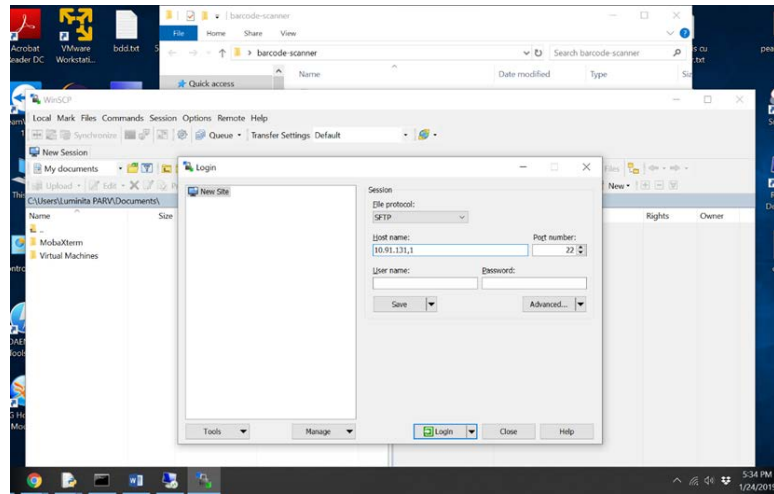


Figure 7. Connection SCP

Given that it was not possible to solve the retrieval of 6 images and to reconstruct the global image based on them, a different approach was needed. Thus, from a constructive point of view, images with three cameras are taken successively.

A challenge to make it possible to process the images was the installation of the OpenCV library, without which it is not possible to process the images.

The application made in Python has the role of taking the image and checking the existence of the code on each of the three images (Figure 8). The image containing the code will be passed on for decoding.

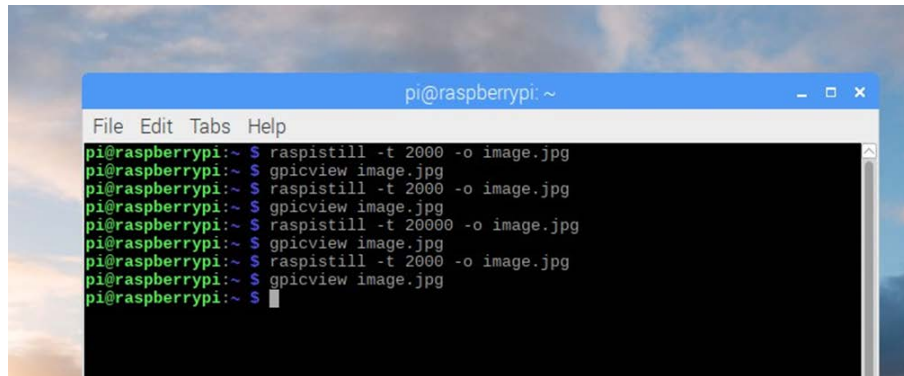


Figure. 8. Image screenshot

In the next figure will be presented the three images taken with the help of the montage made (Figure 9).



Figure 9. Test

4. RESULTS AND DISCUSSION

In this work, a model of container selection was developed, based on several cameras for a prototype automatic machine. The multi-room system simplifies the mechanical structure of the vending machine for collecting recyclable containers. Unlike traditional laser-based scanners, the proposed model can generate from the captured images various additional visual elements, such as storage and security markings. In addition, without moving components, the system is functional without maintenance.

The project focuses on the development of a low-cost, easy-to-maintain and reliable automatic container collection machine. The developed system consists of three Raspberry Pi devices, located on a perimeter around the return container for the beverage container, to capture the image of the outer surface of a beverage container while sliding beyond the cameras, and the barcode is extracted from the images. A regular Raspberry device is used for image processing along with the software developed as part of this study. The program sequences are as follows:

- Image capture. Realization of the program for image capture;

- Image processing. Taking the image from each camera and checking the existence of the barcode on one of the 3 images;

- Identification of the bar code in; making the reading and decoding application

- Connect to the database in the cloud;

- Verification of the existence of the product code; association of the associated recyclable material.

All these components are controlled using a Raspberry PI version 3b microcontroller system.

With the multi-camera system developed, the barcode of the beverage container can be extracted from the camera images without rotating the container. Such a solution simplifies the mechanics of the machine by eliminating the rotary mechanism, thereby increasing reliability and maintainability. With the room-based system, beverage containers can also be inserted into the slot either at the top or at the bottom first, and since the barcode can be extracted without rotating the container, the return process is less time-consuming than the conventional automatic spill machines. In the developed system, the identification of the beverage container is based on verifying the existence of the extracted barcode in a database with barcodes. In addition, the database contains the necessary information on the container, such as the quantity of the container, the maximum allowable weight and the dimensions of the container.

Also, practical realization and programming will allow a better understanding of the image processing modules and an improvement of them. The proposed version is affordable, compared to the solutions proposed by the market.

The purpose of this work was limited to the design and implementation of barcode recognition with low-cost cameras. While shape detection and container weighing have not been implemented, both should be implemented at a later stage of development to ensure the reliability of recognition results.

5. CONCLUSIONS

The described application resolves the stated problem. Thus, starting from the returnable packaging that we can identify by the barcode, information can be obtained on the existing quantity.

Thanks to cloud data storage, querying can be done globally. The hardware solution described did not fully meet the requirements. Thus, due to the low image quality obtained, the solution at the level of 6 cameras was not implemented. However, the stitching program that achieves the overall image has been realized. Identifying the code is again a random process, obtaining the code from several attempts. Using a better image acquisition solution can meet the requirements.

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EFFECT OF FINANCIAL INCLUSION ON POVERTY ALLEVIATION THROUGH MEDIUM, SMALL AND MICRO ENTERPRISES IN NIGERIA

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Abstract: The study analyzed the effect of financial inclusion on poverty alleviation in Nigeria through the use of medium, small and micro enterprises, using time series data spanning from 1992 to 2022. Financial inclusion was measured by number of variables: mobile money operations and electronic money transfers, commercial banks branches, commercial banks credit to rural populace, deposits of customers in the banking sector, microfinance bank branches, microfinance banks credits and microfinance banks deposits while poverty alleviation was measured by per capita income. The data analysis was carried with the technique of autoregressive distributed lag (ARDL) since the test for stationary revealed that the variables under consideration were of mixed integration. The ARDL bounds test revealed that financial inclusion and poverty alleviation counteracted, that is, a long-run relationship existed among the variables under consideration. In the long-run, deposits of customers in the banking sector and microfinance bank branches were the most significant financial inclusion measures. However, the long-run coefficients showed that mobile money operations and electronic money transfers, commercial banks credit to rural populace, microfinance banks credits and microfinance banks deposits had positive effect on per capita income while commercial banks branches, deposits of customers in the banking sector and microfinance bank branches had negative effect on per capita income. In the short-run, commercial banks branches and microfinance bank branches had negative effect on per capita income while all other variables had a negative effect. On the other hand, all the explanatory variables were significant except commercial banks credit to rural populace, deposits of rural commercial banks and microfinance banks deposits. Based on these findings, the study concluded that financial inclusion was majorly transmitted through commercial banks and microfinance towards poverty alleviation. Hence, policies aimed at driving financial inclusion and poverty alleviation were recommended.

Keywords: financial inclusion, poverty alleviation, mobile money operation and electronic money transfer; commercial bank branches, commercial bank credit.

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1. INTRODUCTION

The state of poverty in the world is often linked to inability to access information about financial services because it is either that many people lack knowledge of the financial products and services or the services have not been offered or provided to them or that the services are provided at a cost they cannot afford. They are therefore, excluded. In 2012, Central Bank of Nigeria (2012), statistics shows that 67.1% of the Nigerian populace, which was estimated at about 112 258 300 people, were said to be living below the poverty level even with increasing growth in the Gross Domestic Product. Ironically, this increase in GDP did not transform into tangible socio-economic improvement in terms of employment opportunity, poverty reduction and improvement in the general living conditions of the people. Moreover, recent publications of the World Bank and the United Nations indicate that Nigeria has now risen on the ladder as the nation with the highest number of poor people, (higher than India) (Kazeem, 2018; World Poverty Clock, 2018), as more than 86 million people (Nigerians) now live below poverty line (on less than \$1.90 daily). This state of poverty is considered paradoxical because, there is poverty in the midst of plenty in almost every household in Nigeria (77%) as recorded by Onaolapo (2015).

The ratio of total branches of banks to the population (bank density) of people is considered poor in comparison with other countries (Indonesia, Pakistan, India, Ghana, Kenya), at the same economic level as Nigeria. This uneven growth has induced the exclusion of more than 57% of the country's adult population (75.1 million people) from formal financial services (Onaolapo, 2015). Although the number of Bank branches increased during the study period, the density is still very high. This has been recognized as a fundamental basis of poverty and limitation to economic growth and development in Nigeria.

The year 2017 marked an important milestone for Financial Inclusion in Nigeria, as the 2012 National Financial Inclusion Strategy (NFIS) was reviewed. Results from the 2016 Survey showed a constant formal adult Financial Inclusion rate of 48.6 per cent between 2014 and 2016, while the overall adult Financial Inclusion rate, which includes adults who use formal and informal financial services decreased by 2.1 percentage points from 60.5 to 58.4 percent during the same period (NFIS, 2018).

Furthermore, the recently published World Bank report (2018) on Financial Inclusion the Global Findex 2017, showed that ownership of an account with a financial institution or a mobile money provider in Nigeria stood at 40 per cent in 2017, which represented a decrease from 44 percent account ownership in 2014. In addition, the gender gap in account ownership widened by 24 percentage points, as 51 per cent of men owned an account, while only 27 per cent of women owned an account. Since the launch of the Strategy in 2012, Nigeria's macroeconomic and security contexts have weakened, presenting a challenging environment for Financial Inclusion to thrive (NFIS, 2018). Moreover, the 2012 strategy did not fully leverage on the capability of Digital Financial services in spite of high mobile penetration rate in Nigeria (NFIS, 2018).

Nigeria has a high youth population and adding to other factors like high poverty and unemployment rates provide a highly challenging Financial Inclusion context even prior to the recession in 2016. More so, the declining oil revenue from year 2014 has negatively impacted economic activities and household consumption and has also led to inflation that has reduced purchasing power. Unemployment and reduced disposable income also affected economic activities at the base of the pyramid (NFIS, 2018). The Insurgency in the North Eastern part of Nigeria led some financial institutions, especially banks, to close shops. Many people in the region kept away from banks for security reasons. The security situation also put

pressure on the Northwest due to migration of displaced persons which invariably hampered the financial structure of the country (NFIS, 2018).

Nigeria has a very high mobile penetration rate as more than 75% of the population use mobile phones and digital services. Consumer behaviour is also tending towards digital financial services as the value of electronic transaction increased 2.7 times since 2012. This growth has been driven by introduction of the Cashless Policy in some states and the resulting increase in digital banking investments by financial services providers. While the 2012 NFIS laid out a plan to address identified gaps and other Financial Inclusion needs, progress against the Financial Inclusion Strategy has been mixed.

Although Financial Inclusion has become topical on the global policy agenda for sustainable development, economic literature on Financial Inclusion is still in its infancy. Most studies have looked into the appropriate measures of Financial Inclusion both at household and country levels, while some studies concentrated on the role of financial access in lowering poverty and income inequality. However, these studies have provided foundations in this field and given key policy insights on the importance of Financial Inclusion as a policy tool for Poverty Alleviation and Sustainable Development.

In Nigeria, more than 40% of the adult population are financially excluded, with majority in rural areas, particularly in Northern Nigeria. Amidst a growing population, the challenge is that the high number of financially excluded Nigerians has not abated despite regulatory interventions such as Rural Banking to alleviate poverty in rural areas and the establishment of Community Banks that translated to Microfinance Banks (MFBs). These institutions were not only set up to create store of value for customers who are excluded, but also to provide line of credit to grow their businesses. Their inability to deliver further widened the inequality gap and worsened the challenge of financial exclusion. Despite favourable reports regarding increase in use of Mobile Money Operations, the size of Commercial and Microfinance Bank Credits and expansion of Banks' Branches, Nigeria is still considered to present a worrisome figure on the World Poverty Index.

However, Rakesh, (2016) discovered that, in Nigeria, there are vast number of people, potential entrepreneurs, small enterprises and others, who are excluded from the financial sector, which leads to their marginalization and denial of opportunity for them to grow and prosper. For example, despite the significance of Financial Inclusion in the evolvement of efficiency and equality in the society, many Nigerians are unbanked and lack access to formal financial services. In 2012, according to EFINA (2016), 34.9 million adults representing 39.7% of the adult population were financially excluded. Only 28.6 million adults were banked, representing 32.5% of the adult population.

According to Agbelusi, (2018), the National Bureau of Statistics, in its 2015 Report, states that about 41.4% of the nation's Gross Domestic Products-GDP-estimated at about N39 Trillion (Thirty-Nine Trillion Naira) circulate through the informal sector, creating a negative impact on the country's Economic Growth and Human Development Index. In addition, about 23.0 million adults in Nigeria save at home. If 50.0% of these people were to save N1,000 per month with a bank, then up to N138 billion could be incorporated into the formal financial sector every year.

Consequently, the Nigerian Government has pushed for increased Financial Inclusion in the National Development Agenda through an ambitious target of universal financial access by 2020 and various initiatives such as Agent Banking, Consumer Protection, Financial Literacy, implementation of the Micro Small and Medium Enterprises (MSME) Development Fund, Tiered Know-Your-Customer (KYC) requirements, linkage banking, and credit enhancement programmes (that is, Agricultural Credit Guarantee Scheme Fund (ACGSF), Commercial Agricultural Credit Scheme (CACS), Entrepreneurship Development Centres,

Nigeria Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL), Refinancing and Rediscounting Facilities for SMEs and Small and Medium Enterprise Credit Guarantee Scheme are being targeted. Considering the possible “cost in foregone economic growth when the volume of financial services in a country does not reach a sufficiently large share of the population” (Barajas, Chami & Yousefi, 2013 as cited in Naceur, Barajas & Massara, 2015), these measures may be necessary to encourage increased financial coverage in the country.

2. CONCEPTUAL FRAMEWORK

According to Ajide (2015), Financial Inclusion refers to the practice of ensuring access of financial services on time with adequate credit needed by vulnerable groups such as low-income groups at an affordable cost (Rangarajan Committee, 2008). It is also the delivery of banking services at affordable costs to the vast majority of disadvantaged and low-income groups (Leeladhar, 2006). It has been observed that many adults are excluded from formal financial services all over the world. Agbelusi (2018), states that more than 2.3 billion people do not operate any type of account with formal Financial Institutions all over the world, (Alliance for Financial Inclusion, 2011). The World Bank Group (2011), also states that the poor state of development in the world is linked to the number of people who are excluded from financial services.

Enhanced Financial Innovation and Access (EFInA, 2016), reports that an estimated 40.1 million adults in Nigeria representing 41.6% of a population of about 96 million adults are financially excluded. Financial Inclusion implies that individuals and businesses have access to useful and affordable financial products and services like Payments, Savings, Credits, Insurance and Pensions, which will meet their basic needs and delivered to them in a responsible way (World Bank, 2015). Financial Inclusion relates to the number of people who have access to financial services at all times, within an economy or nation. Agbelusi (2018), states that Financial Inclusion seeks to unlock development opportunities for the poor by providing access to basic financial services, especially micro-credits. Ibrahim et al. (2019) state that, Financial Inclusion is regarded as a dynamic tool to combat Unemployment, Inequality and Poverty as well as wealth creation, empowerment and improvement in the welfare of the citizenry.

They also state that Financial Inclusion has become a global discourse due to the identified correlation between Poverty and Financial Exclusion. In view of the above facts, Kofi Annan, Former Secretary General of the United Nations asserted on the 29th day of December 2003, that “The stark reality is that most of the people in the World still lack access to sustainable financial services whether it is savings, credits or insurance. In addition, the great challenge is to address constraints that exclude people from full participation in the financial sector. Together we build an inclusive financial sector that help people better their live”.

Tita and Aziakpono (2017), posit that there is no generally accepted definition of Financial Inclusion as it expresses a multidimensional process and also varied. It is however, worthy to note that Financial Inclusion is directed towards making formal financial services available, accessible and affordable to everyone in a given country, or economy (AfDB 2013 p. 25). This includes services and products provided by participants in the formal and semi-formal sectors such as Commercial banks, Development Finance Institutions, Post Offices, Microfinance Banks, Credit Unions and Cooperatives.

According to African Development Bank (AfDB, 2013), “the concept of financial inclusion therefore stretches beyond improving access to credit to include facilitating access

to savings, enhancing risk management and ensuring the development of an efficient financial infrastructure that allows individuals and firms to fully participate in the economy while protecting consumer rights” (AfDB 2013, p. 25)3.

An effective Financial Inclusion involves having access to financial services as well as making use of the services. According to Nwankwo and Nwankwo (2014), Enhancing Financial Innovation and Access (EFInA) (2013), defines Financial Inclusion as the provision of a broad range of high-quality financial products such as savings, credits, insurance, payments and pensions, which are relevant, appropriate and affordable for the entire adult population especially the low-income segments of the economy (Nwankwo and Nwankwo, 2014). They further posit that an estimated 2.5 billion adults (Financial Access Initiative (FAI, 2013), just over half of the world’s population, do not use formal financial services to save or borrow, 62% of adults, nearly 2.2 billion, living in Asia, Africa, Latin America and Middle East are un-served and that a little more than 800 million people live on less than \$1.90 per day in Africa and Latin America and less than \$3 in America.

Nigeria is not an exception, with a large population of financially un-served people put at 46.3% in 2010 (EFInA, 2013 in Nwankwo and Nwankwo, 2014), the country is now rated as the country with the highest number of poor people in the world. Financial Exclusion can be described in two ways: exclusion from the payments system- those who do not have access to any bank account, and from formal credit markets- people who cannot access any credit facilities from the Financial Sector, thereby requiring them to patronize the informal and exploitative markets (money lenders etc). It is worthy to state that the inability to fulfil the conditions of having a formal account (not operating any type of account in a Bank or Non-Bank Financial Institution) will automatically disqualify a person from meeting the conditions for credits in the Financial System.

The main idea of Financial Inclusion is the provision, access to and usage of diverse, convenient, affordable financial products and services by majority of the populace.

The access to and use of financial services in any nation are the major drivers of economic growth. Financial Inclusion therefore, covers sustainable, relevant, cost-effective and meaningful financial products and services for the financially underserved population, especially rural dwellers. We shall take a closer look at the ways various stakeholders, nationally and internationally, have defined and explained what Financial Inclusion is.

The United Nations (UN), defines the goals of Financial Inclusion as follows: Access at a reasonable cost for all households to a full range of financial services, payment and transfer services, credit and insurance; Sound and safe institutions governed by clear regulations and industry performance standards; Financial and institutional sustainability, to ensure continuity and certainty of investment; and Competition to ensure choice and affordability to clients (Okoro, 2014). The United Nations aims to increase Financial Inclusion of the poor by developing appropriate financial products and services for them and increasing awareness on available financial services strengthening financial literacy, particularly among women, using the United Nations Development Programme (UNDP).

World Bank (2018), state that “Financial Inclusion means that individuals and businesses have access to useful and affordable financial products and services that meet their needs-Transactions, Payments, Savings, Credits and Insurance, delivered in a responsible and sustainable way”.

Financial Inclusion is a key enabler to reducing Poverty and boosting prosperity (World Bank Group, 2018). The Alliance for Financial Inclusion (AFI), also defines “Financial Inclusion as the availability and equality of opportunities to access financial services”.

Financial Inclusion is where individuals and businesses have access to useful and affordable financial products and services that meet their needs that are delivered in a responsible and sustainable way (AFI, 2011).

One of its aims is to get the un-banked and under-banked to have better access to financial services. The availability of financial services that meet the specific needs of users without discrimination is a key objective of Financial Inclusion. In the context of the above definitions, Financial Inclusion is anticipated to target:

Those with no financial products and services;

Those using a very limited range of products and services;

Those who are inexperienced and newly included consumers.

According to Nwankwo et al., (2014), the issue of access to financial services to rural areas in every country in terms of economic development, employment/empowerment, as well as poverty reduction has been receiving growing attention from diverse people (scholars and policy makers).

In Banking and Finance, Financial Inclusion can be seen as the delivery of financial products and services at affordable rate to disadvantaged and low income segments of the economy, in order to boost their productive capacity, thereby enhancing economic well-being and subsequently, reduce Poverty. To have access to suitable financial services, especially credits, pension and insurance, enlarges livelihood opportunities and empowers the poor to take charge of their lives, which also brings about social and political stability. Financial Inclusion is therefore, considered critical for achieving inclusive Economic Growth, thereby enhancing Poverty Reduction; which is a prerequisite for ensuring Sustainable Growth in the country (Thorat, 2007).

The main objective of the National Financial Inclusion Strategy is to reduce the number of excluded people within the population to 20% by the year 2020 (NFIS, 2011). The global Financial Inclusion average defined as the number of adults with access to financial services is less than 50.0 percent. The problem is more acute in the developing and African countries in particular, such that achieving a higher financial inclusion level has become a global challenge (Ardic, 2011). The global target has been to remove all the barriers, including education, gender, age, irregular income, regulation and geographical locations that have together contributed to the dearth of access to financial services by billions of adults all over the world.

Sanusi (2011), had attributed the rise in poverty level in Nigeria to the challenges of financial exclusion. According to him, achieving optimal level of Financial Inclusion in Nigeria means empowering 70.0 per cent of the population living below poverty level, and this would boost growth and development. Inclusion of this segment of the society would generate multiple economic activities, cause growth in national output and eventually reduce poverty. Theoretically, greater access to deposit facilities enhances the ability of financial intermediaries to mobilise savings, while better access to finance facilitates economic growth by increasing the ability of households to undertake productive investments (Andrianaivo and Kpodar, 2011).

Specifically, Financial Inclusion connects people to banks with the consequential benefits. Chong and Chan (2010), noted further that access to a well-functioning financial system, by creating equal opportunities, enables socially and economically excluded people to integrate into the economy and actively contribute to economic development. This ensures that the financial system plays its role of inclusive growth which is one of the major challenges of emerging and developing economies.

Mohan (2006), noted that, once access to financial services improves, inclusion affords several benefits to the consumer, regulator and the economy alike. The author noted

that the establishment of an account relationship can pave the way for the customer to avail the benefits of a variety of financial products and services, which are not only standardised, but are also provided by institutions that are regulated and supervised by credible regulators that ensures safety of investment. In addition, bank accounts can also be used for multiple purposes, such as, making small value remittances at low cost and purchases on credit. In summary, access to a bank account does provide the account holder not only a safer means of keeping his/her funds but also provides access to use of other low cost and convenient means of transactions. For the regulator, the transparency in the flow of transactions makes monitoring and compliance easier, while for the economy, increased financial inclusion makes capital accumulation easier and more transparent.

Several measures have been taken by banks in most of the developing countries to improve access to affordable financial services through financial education, leveraging technology, launching of various schemes and generating awareness. Despite this, access to formal banking system by weaker sections of society in most of the developing countries is affected by several barriers. The lack of awareness, low income and assets, social exclusion, illiteracy are the barriers from the demand side (CBN, 2012). The distance from bank branch, branch timings, cumbersome banking procedure and requirements of documents for opening bank accounts, unsuitable banking products or schemes, language, high transaction costs and attitudes of bank officials are the barriers from the supply side. Hence, there is a need for Financial Inclusion to build uniform economic development in order to usher in greater economic and social equity (CBN, 2015).

Access to formal financial services require documents of proof regarding person's identity (KYC), postal address and proof of income. Other factors include poor staff attitude, unsuitable products, difficulty in understanding the language, documentations, and distance to bank branches, poor technology coverage / infrastructure and knowledge of financial products.

The Nigerian economy contracted for five consecutive quarters and only experienced sluggishly positive growth in real GDP in second quarter of 2017. To sustain this growth, the Nigerian government views Financial Inclusion as a critical foundation for economic recovery and growth. The government believes in the capability of Financial Inclusion to drive economic growth and development; hence endorsed the concept as a major component of the country's National Economic Development Agenda. To buttress this point, while receiving the UN Secretary- General's Special Advocate for Inclusive Finance for Development (UNSGSA), Queen Maxima of Netherland, in Abuja, Nigeria in November 2017, the Vice President of Nigeria, Prof. Yemi Osinbajo stated that: "Financial Inclusion is absolutely important for us as an economy. We need to be able to ensure that all of our people, wherever they live, no matter how far away they are can be reached with financial products" (The Guardian Newspaper, 2017).

The same point was further reinforced during bilateral discussions between the visiting UNSGSA and the Nigerian Central Bank Governor, Godwin Emefiele. Report of Mckinsey Global Institute (2014), showed that Digital Financial Inclusion can provide substantial economic benefits to Nigeria by boosting the Gross Domestic Product up to 12.4% by 2025; mobilize new deposits to a level of about US\$36 million; create about 3 million new jobs; reduce government leakages annually by US\$2 billion; and add about 46 million people to the inclusion bracket (McKinsey Global Institute, 2014).

One of the major highlights of Financial Inclusion in 2017 is the reduction in the number of unbanked by 515 million globally (World Bank, 2017). The World Bank Global Findex, 2017, reports that the total number of globally excluded has reduced from 2 billion to 1.7 billion between 2014 and 2017. The Global Findex 2017 also reported a 7% increase in

account ownership up to 69% from 62% in 2014. Digital technology and mobile money are the most promising tools used to close Financial Inclusion gaps across the globe, with 52% of adults globally using the digital platform to send and receive payment - an increase of 10% from 2014.

Notwithstanding global progress, account ownership in Nigeria has plummeted by 4 percentage points to 40% in 2017 compared to 44% in the 2014 report. This trend is in tandem with the EFINA 2016 survey report which shows that no interim target was achieved in 2016.

The fragile macroeconomic environment in the previous year coupled with the slow Financial Inclusion growth rate in 2016 meant that concerted effort is required from all stakeholders in Nigeria. This is in order to quickly reverse the trend and stand a realistic chance of achieving 80% inclusion rate at the project terminal date of 2020 (Revised National Financial Inclusion Strategy Implementation, 2018).

Macroeconomic environment in 2017 showed better promise than the preceding year. This was largely due to the intervention of the CBN in the Agricultural Financing through the Anchor Borrowers Programme, increased oil receipt by the Nigerian government, fiscal stimulus, as well as the improved business environment. The recovery of crude oil price at the local and international markets also meant an improvement in performance with an overall Balance of Payments surplus of 3.3% of GDP, as against a deficit of 0.2% of GDP in 2016. This was further strengthened by the sustained reform in the Foreign Exchange Market which resulted in the accumulation of External Reserve and a more stable Naira/US Dollar Exchange Rate.

The structure of the Nigerian financial sector remained largely unchanged in 2017, although one more bank was granted license - making it a total of 27 licensed banks. In the same year, total asset of the banking sector grew by 9.4% compared to the preceding year. Microfinance Banks (MFBs) also grew to 882 in 2018 (Revised National Financial Inclusion Strategy Implementation, 2018). E-payment experienced impressive growth during the year under review with an increase in volume and value by 43.2% and 37.6% respectively. On the other hand, the volume and value of cheques cleared nationwide maintained a declining trend as it fell by 7.7% and 6.9% respectively. The insurance sector recorded a 14% growth in gross premium and 1.7% in terms of claims paid during the year under review. The total annual contributions made into the Contributory Pension Scheme (CPS) during the year grew by 25.12% when compared to the contributions made in 2016. In the capital Market, the number of listed securities increased from 247 in 2016 to 261 in 2017. The aggregate market capitalisation of the 261 listed securities rose, significantly, by 41.6% to N22, 917.9 billion, compared to the level in 2016.

Overtime the world has experienced a situation where many people lack the basic necessities of life, food, shelter and clothing. Some cases are very precarious that their conditions become worry some to the extent that they pose great dangers to the environment. This is regarded as Poverty. According to the World Bank (2012) more than 780 million people live below the international poverty line (UNDP 2016). Poverty entails more than the lack of income and productive resources to ensure sustainable livelihoods. A key metric, for measuring Poverty is the income level within an economic region. It is called Per Capital Income, which is the average income in an economy divided by the total population. The United States Census Bureau (2019), postulates that Poverty is measured by comparing a person's income with a set of poverty threshold or minimum amount of income needed to cover basic needs (Institute for Research on Poverty, 2019).

Poverty has been defined by different authorities in different ways. It will be in order to attempt various definitions by some stakeholders in the world. The United Nations (1998),

states that poverty is a denial of choices and opportunities, a violation of human dignity. It means lack of basic capacity to participate effectively in society, not having basic necessities of life like, food, clothing, shelter and other social amenities. It also means insecurity, powerlessness and exclusion of individuals, households and communities. It means susceptibility to violence, and it often implies living on marginal or fragile environments, without access to clean water or sanitation (United Nations, 1998).

World Bank (2000), defines poverty as, “The state of one who lacks a usual or socially acceptable amount of money or material possessions.” Based on this definition, the true definition of poverty actually varies from country to country, from city to city, and from town to town based on socially constructed benchmarks for wealth. Statisticians in the United States of America and India describe living on less than \$1.90 a day (which approximately 780 million people worldwide do) as “extreme poverty” (UNDP, 2016). This is also the basis upon which the World Bank and the United Nations defined Poverty. There are many indicators of a favourably inclusive economy. They include the number of Commercial and Microfinance Bank Branches to service the population, the volume of credits available to the populace, especially the rural dwellers and the efficiency of technology in carrying out financial transactions.

Poverty Alleviation becomes effective not only by the number of accounts opened, but when a greater percentage of the populace, especially the rural dwellers, have access to credits, to enable them expand their businesses, improve productivity as well as income. It is only when enough or appropriate credits are granted for economic development, can an economy be said to be effectively inclusive. Poverty has also been defined as a state or condition that depicts inability of individuals to enjoy the minimum acceptable standards of life and well-being as a result of lack of the financial and other basic essentials (Investopedia (undated)).

Ajakaiye (1998), defines poverty as a condition of not being able to afford basic necessities of life like food, water, clothing, shelter, education etc, in addition to basic non-essentials such as participation, identity, etc. Though poverty is often defined in absolute terms of low income, in reality, the consequences of poverty exists on a relative scale.

Poverty, according to Latifee (2003), may arise from economic, social, and political deprivations in the forms of lack of income, lack of basic human capabilities, lack of institutional defences, a combination of these or, in extreme cases, a lack of all these.

The World Bank (1997), defines poverty as hunger, lack of shelter, sickness and inability to attend school, inability to read and write, joblessness, fear for the future, high infant and child mortality.

Aku, Ibrahim and Bulus, (2009), defined poverty from five perspectives as: Personal and physical deprivation experienced as a result of health, nutrition, literacy and educational disability and lack of self-confidence, Economic deprivation due to lack of access to property, factors of production and finance, Social deprivation brought about by denial from full participation in social, political and economic activities, Cultural deprivation in terms of lack of access to values, beliefs, knowledge, information and attitudes which deprived the people of the ability to control their personal destinies and Political deprivation emanating from lack of political voice to participate in decision making that affect their lives.

3. THEORETICAL REVIEW

Finances are crucial elements in the development of any economy as no economy can witness appreciable growth without a good Financial System. The relationship between finance and real activities can be traced to Smith (1776), who argues that real growth in an

economy is driven by activities of the Financial System because increased production and specialization are facilitated by enhanced resource (credit) acquisition offered by the system. Also, Bagehot (1873), posits that the 19th century Industrial Revolution in Europe was propelled by the Financial System which mobilized funds in unusually ‘big form’ for industry. Corroborating the views of Smith (1776), and Bagehot (1873), Schumpeter (1912), avers that technological innovation (a requirement for productivity and growth) is facilitated by the financial sector through efficient resource mobilization and allocation.

Schumpeter maintains that a developed and functional financial system is a condition precedent to a successful entrepreneurial engagement in technological innovation because translating innovative thinking (ingenuity) into real output has cost implications which may not be covered by entrepreneurs themselves. He argues that an efficient financial system is able to identify and fund entrepreneurs who have the greatest chances of successfully transforming innovative ideas into marketable products through innovative production processes.

Theories of Financial Structure and Development: The thesis fits in well with a large amount of literature on the theory of financial development. However, the broad nature of the concept of financial development, which encompasses financial structure, inclusion and deepening, makes it imperative to confine the study within the purview of financial inclusion theory.

Their inter-relatedness, however, compels the author to review the whole concept of financial development theoretically. Many theories have been formulated on financial structure, though the author focuses on three that tie in well with this study.

According to Hannig and Jansen (2010), the failure of a traditional measure of financial development using, for example, ‘private credit to GDP’ that captures only ‘depth’ to the neglect of ‘breadth,’ calls for a shift in the existing paradigm. Breadth that encapsulates access to financial resources/services defines an inclusive financial system. This is often neglected in the traditional measure that emphasises the policy end of accumulation of capital at the aggregate level.

There is a lack of consensus among policymakers and researchers on the linkages that must exist between financial deepening, inclusion and development. For instance, Beck et al. (2015) argue that financial development is a necessary, but not sufficient condition for inclusion. Deliberate policy actions are therefore required to ensure inclusion emerges from financial development.

Also, as the linkage between financial deepening and access becomes weaker, financial development tends to be suboptimal. Klapper and Singer (2011), also find a positive, albeit imperfect, correlation between Financial Inclusion and financial development.

The concern over the failure of the financial sector reforms to engender financial inclusion in most parts of Africa is often raised (Beck et al., 2015; Demirgüç-Kunt and Klapper, 2012). Beck et al. (2015) hinted at the possibility of trade-offs between financial deepening and inclusion. In some instances, policy interventions aimed at inducing a deepened financial system could potentially be conflicting with the drive towards inclusion.

A deepened Financial System that is inclusive will ensure both inclusive and pro-poor growth that is equitable. Financial Inclusion, therefore, becomes a more pragmatic indicator of a developed financial system.

The acid-test of gauging financial development will be financial inclusion that results from a deepened financial sector. This way financial inclusion becomes the missing link that has often generated a lack of consensus in the past over the role finance plays in economic and social development (Hannig & Jansen, 2010) average incomes and financial well-being.

Yaaba (2017), states that Financial Inclusion operates on three interrelated indices or dimensions. These are: penetration, services offering and usage. This was postulated by Sarma (2008), as a

critical criterion for measuring inclusiveness. According to Sarma (2008), Penetration Index measures the number of Bank Accounts that the adult population operate in a given economy. This dimension looks at the availability of banking services to the people in the system. In the Service Dimension, Sarma (2008), measures the number of bank branches and service outlets like ATM etc. at the disposal of the populace.

Access to financial services is a core factor of Financial Inclusion.

In the Usage Dimension or Index, Sarma (2008), postulates that Financial Inclusion is effective when the citizens have access to credits and are also willing to use the products and services offered to them by the lending institutions. This is a most crucial Dimension as it is not only the availability and access that matter, but the usage of the services offered. Financial Inclusion is not only about product and service availability, but about the usage of such services and products.

This platform also confirms to the standard that there are available products and services, which are suitable and have been offered at affordable prices.

Moreover, Sarma, (2008, 2012), designed mathematical equations and certain formulae/ assumptions to determine whether a country is financially included or not. In the range between 0 and 1, the theory states that a country is assumed to be included when the range swings towards 1 than 0. At point 1, a country is said to be perfectly included, while point 0 indicates absolute exclusion. In summary, Yaaba (2017), states that Nigeria has measured well on the general assessment, rising from 0.425 to 0.505 between 2007 and 2015. The Penetration Index fared better, recording a peak of 0.340 in 2013 and 0.322 in 2016. This implies that efforts at penetrating the unbanked are yielding higher results. Fie also stated that Service and Usage Indexes have not measured up to the expected milestone. This implies that although more people are having access to financial services, only a significant proportion are using them, thereby constituting a problem in achieving the inclusion milestone of 80% of the adult population by the year 2020. He opines that it is only when the services are used that Poverty can be said to be reducing.

4. EMPIRICAL REVIEW

Olaniyi and Olaniyi (2017) evaluated the links between Financial Inclusion and economic output, as well as between Financial Inclusion and the five sectors of the Nigerian economy using integration and Granger causality test. The results suggest that there is bi-directional causality between Financial Inclusion and the aggregate economy. In most cases, there is bi-directional causality between Financial Inclusion and the sectors of the economy as well. This study also shows that financial usage has higher causal links with the economy and its sectors than financial access. Thus, a responsible pursuit of Financial Inclusion in Nigeria will emphasize not only creation of access to finance, but most importantly, its usage. This study establishes that Financial Inclusion is potent accelerators of economic progress, which can help the nation realize the objectives of building shared prosperity and abolishing Extreme Poverty. For policymakers, the message is clear: Mainstream Rural Credit from banks and other financial intermediaries in such a way as to realize increased coverage, broaden Financial Inclusion and stimulate output.

Ogunsakin and Fawehinmi (2017), conducted a study to examine the Financial Inclusion as an effective policy tool of Poverty Alleviation in Ekiti State from 1980 to 2015. Random sampling technique was employed to sample 180 adult households across the three

Senatorial Districts of the state. The data used for the study were obtained with the use of well-structured questionnaires. Descriptive statistics and multinomial logic were used to empirically analyse the results. Findings from the study revealed that -poverty rate was higher among women. Women accounted for about 58% of the poor while men accounted for 42%. The study discovered that the number of Commercial Banks across the three Senatorial Districts of the state were extremely low. The available ones were only concentrated in State Capital, (Ado-Ekiti). The study equally found that the size of financially excluded population in Ekiti State was high (45%). That shows that financially included population in Ekiti state was basically among civil servants and few business men during the study period. The study found that the following factors were major determinants of poverty and financial inclusion in Ekiti State during the study period. The factors are; employment, marital status, educational level, religion, financial discipline, use of banks products and services, proximity, household size, access to political contract, gender, income level and age. Based on these findings, it recommended that more Commercial Bank Branches and cash centres should be opened across the three Senatorial Districts of the state. More bank products and services, specially designed for the rural-poor should equally be introduced such as grants, overdraft and special funds that can easily be accessible by them.

Sarma & Pais (2008), in a cross-country empirical study of the nexus between Financial Inclusion and development, identified levels of human development indices like income, inequality, literacy, urbanization, physical infrastructure for connectivity and information, non-performing assets as a percentage of total assets and the capital asset ratio of the Banking System as the factors that are significantly associated with Financial Inclusion. Allen, Demircug-Kunt, Klapper & Peria (2016), using data for 123 countries and over 124,000 individuals, find that increased Financial Inclusion is linked to an enabling environment to access financial services, such as little documentation in the opening of an account, greater proximity to branches, and lesser banking costs. They found that, for rural residents and the poor, policies targeted at promoting inclusion are especially effective. Largely, their results suggest a shift in policy in the expansion of financial usage.

Okoye, Adetiloye, Erin and Modebe (2015), conducted a study to determine the effect of Financial Inclusion on economic growth and development in Nigeria using historical data on selected variables over the period 1986- 2015. Ordinary Least Squares regression technique was adopted. Financial inclusion was measured in the study using Loan to Deposit Ratio (LDR), Financial Deepening Indicators (FDI), Loan to Rural Areas (LRA), and Branch network (Bbranch). Measures of financial deepening adopted in the study are ratios of private sector credit to GDP and broad money supply to GDP. Economic growth was proxied as growth in Gross Domestic Product (GDP) over successive periods while Per Capita Income (PCI) was adopted as a measure of poverty and hence an index of development. The main findings are (i) credit delivery to the private sector (an index of Financial Inclusion) has not significantly supported economic growth in Nigeria (ii) Financial Inclusion has promoted Poverty Alleviation in Nigeria through rural credit delivery. The study recommends that the Monetary Authorities should not only deepen Financial Inclusion efforts through enhanced credit delivery to the private sector but should also strengthen the regulatory framework in order to ensure efficient and effective resource allocation and utilization.

Migap (2015), examined Financial Inclusion as a strategy for inclusive growth in Nigeria. The study compared Nigerian Financial Inclusion Index with other emerging economies in the upper middle income strata. They find that Nigerian Financial Inclusion indicator is still shallow compared to emerging economies both within and outside Africa. The study suggests that active participation of media and Educational Institutions should be encouraged to promote Financial Literacy in Nigeria.

Quanda (2018), investigated the empirical relationship between Financial Inclusion, Poverty and gender inequality. Using unique cross-country panel and survey data sets, three hypotheses are tested: (1) microfinance is an effective tool for poverty reduction; (2) women's participation in microfinance contributes to improvements in gender equality; and (3) Financial Inclusion has a positive effect on household income in China. The contributions of this thesis are fourfold. First, it shows that microfinance has a negative effect on poverty at the macroeconomic level. Second, it demonstrates that women's participation in microfinance is associated with a reduction in gender inequality across countries. However, regional interactions reveal that cultural factors are likely to influence the gender inequality-microfinance nexus. Third, it designs a new multidimensional financial exclusion index using survey-level microeconomic data from China. The index reveals that the gender of the household head is unlikely to play a role in determining access to financial services. However, education, ethnicity and age play significant roles. Fourth, the index is also used to show that Financial Inclusion has a positive effect on household income and helps to reduce income inequality and poverty.

Nkwede (2015), examined Financial Inclusion and economic growth in Africa, using Nigeria as a case study. Data for the study covered the period 1981 to 2013. The study shows a negative relationship between Financial Inclusion and growth of the Nigerian economy. He attributes the finding to high level of financial exclusion of adults from financial services.

Onaolapo and Odetayo (2012), studied Financial Inclusion in Nigeria from the perspective of Microfinance Banks using a survey design method. They find that access to financial services through Microfinance Institutions by less privileged people promotes employment generation, reduction in poverty and overall Economic Growth.

Joseph and Varghese (2014), studied the role of Financial Inclusion in the development of Indian economy. The study investigated the activities of five Private Sector banks and five State banks from June to November, 2013. Onsite and offsite ATM usage, number of bank branches, credit cards and debit cards per customers were used as proxies for Financial Inclusion variable focusing on rural and semi-urban areas in India. They find that quite a number of people are still excluded from financial services even after the introduction of inclusive banking initiatives in the country. Aduda and Kalunda (2012), examined Financial Inclusion and Financial Sector Stability with reference to the Kenyan economy. The study which is exploratory in nature reveals that Financial Inclusion is a prerequisite for Economic Growth and Development in Kenya because various Financial Inclusion programmes have impact on Kenya financial stability. The study suggests that government should intensify its Financial Inclusion strategies so that more people would have access to financial services especially people in the informal sector. Similarly, Allen, Carletti et al (2013), revealed that Commercial banks can enhance access to financial services to underprivileged households in Kenya by deepening its impact on the rural and vulnerable groups. Brune et al., (2012), also find that increased financial access through mobilization of rural savings improves the livelihood of Malawian rural population because poor households have access to savings for agricultural inputs.

Onaolapo (2015), conducted a study to examine the effects of Financial Inclusion on the Economic Growth of Nigeria (1982-2012). Data for the study are collected mainly from secondary sources such as Statistical Bulletins of the Central Bank of Nigeria (C.B.N.), Federal Office of Statistics (F.O.S.) and World Bank. Employed data consist of such bank parametric as Branch Network, Loan to Rural Area, Demand Deposit, Liquidity Ratio, Capital Adequacy, and Gross Domestic Product. Extracted data spanning about thirty-year period; 1982 to 2012 were related using the Ordinary Least Square (OLS) method (STATA 10). Tested hypothesis on Poverty Reduction found Loan to Rural Areas (LRA), Agric. Credit

Guaranty Scheme Fund (ACGSF) significant to Per Capital Income(PCI) (5%) given t-stat 2.82, $p > t = 4.85$ while Financial Deepening (FDI) and Broad Money (FD2) also significantly influenced Economic Growth (Using GDP) with t-stats=3.61, 4.85 $p > t = 0.0013$ and 0.000 respectively. Deposits from Rural Areas (DRA) as surrogate for Financial Inclusion is influenced by Loans to Rural Areas (LRA) and Small Scale Enterprise (LSSE) as surrogates for financial intermediation given t-stats=2.2 and 2.9 with p-values=0.03 and 0.007. The overall results of the regression analysis show that inclusive Bank financial activities greatly influenced Poverty Reduction ($R^2=0.74$) but marginally determined National Economic Growth and Financial Intermediation through enhanced Bank Branch Networks, Loan to Rural Areas, and Loan to Small Scale Enterprise given about 50% relatedness between variables on either sides of the equations. Policy recommendations are made on the basis of these findings. Ageme, Anisiuba, Alio, Ezeaku and Onwumere (2018), conducted a study on the effect of Financial Inclusion on Poverty Reduction in Nigeria using quarterly data from Quarter 1 (Q1) of 2009 to Quarter 4 (Q4) of 2014 (2014:Q4). Moreover, this study is distinguished among existing literatures by choice of financial accessibility parameters, which are based objectively on financial technological innovation and distinct bank-based channels for financial accessibility.

The findings reveal that Automated Teller Machines inclusion channel and Deposit Money Bank Credit to the rural populace have significant positive effect on Poverty Reduction, whereas web based/ internet banking channel and Microfinance credit exert negative impact on Poverty Reduction. Negative effects ascribed to internet banking channel may not be unconnected with the low literacy level especially among the banking public. Hence fewer percentage of adult banked population in, Nigeria use the web channels to access financial services compared to the ATMs that have continued to attract wider usage and acceptance.

The results of Johansen co-integration test indicate the existence of long-run equilibrium relationship between Financial Inclusion and Poverty Reduction. However, speed of adjustment based on the Error Correction Model shows that 71 percent of deviation from equilibrium path is corrected every quarter. Diagnostic tests confirm the stability and correctness of our model. It is recommended that increase in alternative banking outlets should be accompanied by vigorous Financial Education so that the vast unbanked public, whose economic prosperities are yet to be integrated into the financial system, can be financially included.

Okoroafor, Adeniji and Awe (2018), conducted a study to examine the determinants of Financial Inclusion in Nigeria using a time series data for the period of 1990 to 2016. The study employed Error Correction Model (ECM) after conducting unit root test and co-integration test. The estimated result revealed positive and significant relationship between the Financial Inclusion and the proposed variables. Specifically, the higher a country's GDP per capita, the better the financial inclusion in their financial system. Likewise, the broad money given the continuous increase in the amount of money in circulation which will definitely improve financial inclusion in the country. Credit and internet users per 100 people also have positive and significant impact on financial inclusion. While the significant impacts of internet access have very vital implication for financial inclusion as the more the use of internet, the more the financial inclusion through extension of financial services to larger number of people living in the rural areas without the exhaustive use of the internet. The internet has fundamentally abridged the cost of transactions, through the use of mobile operations and the ATM. This has increased the capacities of credit delivery in remote areas in the country and has made it possible to provide home banking services where the accounts are operated by illiterate customers using mobile phones.

Elinam (2017), conducted a study on the impact of financial inclusion on poverty reduction in Sub-Saharan Africa. Using a representative sample of 40 countries from the region covering a period from 2010 to 2014, the study examines the level of financial inclusion among the countries in the region. Sarma's (2008), approach was used in computing the index of financial inclusion for the 40 countries in the study. The study also examines the factors that determine financial inclusion in Sub-Saharan Africa and finally, how financial access affects poverty reduction in the region. The study made use of econometric models in the estimations. The findings of the study indicate that, most countries in Sub-Saharan Africa, have medium financial economies and over the study period, only four countries fall within the high financial economy namely: - Cape Verde, the Seychelles, Sao Tome and Principe; and Nigeria. Secondly, the findings suggest that, Gross National Income (GNI) per capita and remittances are the main determinants of financial inclusion in the region, meaning that Per Capita Income is the main factor for determining financial inclusion in Sub-Saharan Africa and that involuntary financial exclusion in the region may be determined greatly by inadequate household income and high-risk profile rather than market failures and weak implementation of contractual agreements. Moreover, the findings also clearly suggest that financial access does not have any meaningful impact on poverty reduction in the region but credit to private sector by domestic banks (financial depth) significantly reduced poverty in Sub-Saharan Africa.

Ajide (2015) carried out a study on effect of Financial Inclusion on Poverty Reduction in Nigerian rural communities using data from 1996-2013. Data sourced from Central bank of Nigeria (CBN), National Bureau of Statistics and World Bank data base were analyzed using Autoregressive

Distributed Lag Modeling (ARDL). Bound test results showed that there was a long-run relationship among the variables. Both short and long run relationship confirmed the importance of Financial Inclusion as a suitable strategy for poverty reduction in rural communities. The finding of this paper has a clear-cut policy implication. As the beneficial effect of financial inclusion on rural Poverty Reduction is dampened or even cancelled out by cost of borrowing and degree of financial openness, the policy package must take into account the risk of interest charged by banks and financial exposure or openness of rural communities in Nigeria. This is because the levels of Financial Literacy are often low in rural areas. This does not allow people to understand financial services they have around them which may serve as an opportunity for banks to exploit them. The paper also recommended that monetary authorities should drive rural Financial Inclusion in the country.

5. METHODOLOGY

The study adopted the model of Onaolapo (2015) but with some modifications. Onaolapo (2015) model:

$$PCI_t = f(\text{MMO}, \text{CBB}, \text{CBRD}, \text{CBDR}, \text{MCBB}, \text{MCBC}, \text{MCBD}) \quad (1)$$

$$PCI_t = P_0 + p_1 \text{MMO}_t + p_2 \text{CBB}_t + p_3 \text{CBCR}_t + p_4 \text{CBDR}_t + p_5 \text{MCBB}_t + p_6 \text{MCBC}_t + p_7 \text{MCBD}_t + U_t \quad (2)$$

Where:

PCI = Per capita income;

MMO = Mobile Money Operations and Electronic Money Transfers;

CBB = Commercial bank branches;

CBCR = Commercial Bank credit to rural populace;

CBDR = Commercial Bank Deposit of Customers in the rural areas;

MCBB = Microfinance bank branches;

MCBC = Microfinance bank credits;
MCBD = Microfinance bank deposits;
Po = Intercept;
Pi - p₇ = Parameters;
U_t = stochastic term.

P₀, P₁, P₂, P₃, P₄, P₅, P₆, P₇ are parameters of the model a priori expectation are that P₀, P₁, P₂, P₃, P₄, P₅, P₆, P₇.

6. RESULTS AND DISCUSSIONS

The long-run estimates of the ARDL model. The long-run estimates presented in Table 1 showed that mobile money operations and electronic transfers (MMO) had a positive effect on poverty alleviation (measured by PCI) such that a 10% increase in MMO caused PCI to increase by 0.24%. It was also found that a 10% increase in number of commercial banks' branches resulted to approximately 1.05% decrease in PCI. Also, a 10% increase in commercial banks' credit to rural populace (CBCR) caused an increase of about 8.62% in PCI, while increase in deposits of rural populace (CBDR) caused a diminishing effect of 0.67% on PCI in the long-run. Against *a priori* expectation, 10% increase in number of microfinance banks' branches (MCBB) caused PCI to reduce by 15.09% in the long-run. It was also revealed, that 10% increase in microfinance bank credits (MCBC) caused PCI to accelerate by 0.97% in the long-run. Again, a 10% increase in microfinance banks' deposits (MCBD) resulted to approximately 1.86% increase in PCI in the long-run.

Table 1. Long-run estimates

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(MMO)	0.024198	0.037216	0.650205	0.5278
LOG(CBB)	-0.105610	0.466686	-0.226298	0.8248
LOG(CBCR)	0.086239	0.055730	1.547447	0.1477
LOG(CBDR)	-0.067352	0.020716	-3.251274	0.0069
LOG(MCBB)	-1.509679	0.643699	-2.345318	0.0370
LOG(MCBC)	0.097041	0.417364	0.232510	0.8201
LOG(MCBD)	0.186497	0.488378	0.381869	0.7092
C	14.82195	6.719394	2.205846	0.0476

Source: Author's computations using e views 10.0

The short-run estimates are also of relevance in the estimation of the financial inclusion-poverty relationship. Table 4.6 below presented the dynamic short-run estimates of the ARDL model. The short-run estimated coefficients revealed that coefficients of MMO, CBB, CBCR and MCBC are very much in consonance with the long-run estimates. However, the proportion by which MMO, CBB and MCBC contributes to PCI is comparatively higher in the short-run than in the long-run. In the short-run, MMO, CBCR, CBDR, MCBC and MCBD accounted for positive changes in PC while CBB and MCBB accounted for negative changes in PCI. Specifically, the short-run coefficients of the explanatory variables revealed that 10% increase in MMO, CBCR, CBDR, MCBC and MCBD caused about 1.73%, 0.30%, 0.58%, 3.83% and 0.82% increase in PCI respectively. On the other hand, 10% increase in CBB and MCBB caused approximately 1.14% and 3.03% decrease in PCI respectively.

Table 2. Short-run estimates

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLOG(MMO)	0.173676	0.035703	4.864456	0.0005
DLOG(CBB)	-0.114077	0.035399	-3.222605	0.0081
DLOG(CBCR)	0.030924	0.035869	0.862153	0.4070
DLOG(CBDR)	0.058011	0.056399	1.028578	0.3258
DLOG(MCBB)	-0.303374	0.080515	-3.767900	0.0031
DLOG(MCBC)	0.383592	0.058076	6.604985	0.0000
DLOG(MCBD)	0.082582	0.153419	0.538279	0.6011
ECM(-1)	-0.476604	0.048741	-9.778271	0.0000
R-squared	0.801803	Mean dependent var		0.067289
Adjusted R-squared	0.791894	S.D. dependent var		0.136990
S.E. of regression	0.062493	Akaike info criterion		-2.621015
Sum squared resid	0.078108	Schwarz criterion		-2.521829
Log likelihood	30.83116	Hannan-Quinn criter.		-2.597649
Durbin-Watson stat	2.480841			

Source: Author's computations using e views 10.0

The error correction mechanism (ECM) tells the degree to which the equilibrium behaviour drives the short-run dynamics. Thus, the ECM term is of importance in integration analysis. The coefficient of the ECM term which signifies the speed of adjustment of the model to equilibrium in the event of shocks, shows that 47.66% of disequilibrium errors were corrected. The ECM term is also found to be negative and significant; further confirming the existence of a long-run relationship between financial inclusion and poverty alleviation in Nigeria. The value associated with the Adjusted R-squared is 0.791894, indicating that the explanatory variables accounted for approximately 79.18% of the total variations in PCI.

The test of hypotheses was based on the following decision rule: Accept null hypothesis if “probability value is greater than 0.05.” Reject null hypothesis if “probability value is less than 0.05.”

H₀₁: Mobile money operations and electronic money transfers have no significant effects on per capita income in Nigeria. The long-run p-value of mobile money operations and electronic money transfers (MMO) is 5278 > 0.05, while its short-run p-value is 0.0005 < 0.05. This implies that MMO was insignificant in affecting PCI in the long-run, while it was significant in the short-run. Hence, it was concluded that MMO has a significant effect on PCI in the short-run and insignificant in the long-run.

H₀₂: Commercial bank branches have no significant effect on per capita income in Nigeria. In the long-run, the p-value associated with number of commercial banks branches (CBB) is 0.8248 > 0.05 whereas the short-run p-value of CBB is 0.0081 < 0.05. It then implies that CBB has an insignificant effect on PCI in the long-run, while the effect of CBB was observed to be significant in the short-run.

H₀₃: Commercial bank credits to rural populace have no significant effect on per capita income in Nigeria. With p-values of 0.1477 and 0.4070, it was established that commercial banks credit (CBCR) to the rural populace has no significant effect on PCI both in the long-run and short-run. Hence, the null hypothesis was accepted.

H₀₄: Deposits of rural branches of commercial banks have no significant effect on per capita income in Nigeria. Based on the long-run and short-run p-values of 0.0069 and 0.3258 respectively, it was found that deposits of rural branches of commercial banks' (CBDR) had a significant effect on PCI in the long-run, but exert an insignificant effect in the short-run.

H₀₅: Microfinance bank branches have no significant effect on per capita income in Nigeria. This hypothesis tested significance in the long-run and short-run following the p-values ($0.0370 < 0.05$; $0.0031 < 0.05$). Hence, it was concluded that number of microfinance bank branches has a significant effect on PCI.

H₀₆: Microfinance bank credits have no significant effect on per capita income in Nigeria. The long-run p-value (0.8201) associated with the coefficient of microfinance bank credits (MCBC) revealed that MCBC has no significant effect on PCI in the long-run. On the other hand, with a p-value of 0.0000, it was established that MCBC has a significant effect on PCI in the short-run.

H₀₇: Microfinance bank deposits have no significant effect on per capita income in Nigeria. With p-values of 0.7092 and 0.6011, it was observed that microfinance banks' deposits (MBCD) has no significant effect on both the long-run and short-run respectively. This observation led to the rejection of the null hypothesis at 5% level.

The study found that mobile money operations and electronic money transfers (MMO) had a positive effect on PCI in the long-run and short-run, however, MMO was significant in the short-run. This implies that MMO was more influential in the short-run than in the long-run. On the other hand, the positive coefficient of MMO indicated that PCI was rising due to increase in money operations and electronic money transfers. This explains how mobile money potentially helps reduce poverty by ameliorating PCI, several areas of market failure in developing economies, including savings, insurance, etc. This finding is in consonance with Ageme et al. (2018), who concluded that mobile money operations and electronic money transfers have transformed the landscape of financial inclusion in developing and emerging market Economies, leapfrogging the provision of formal banking services.

Though, it is expected that increase in number of commercial bank branches (CBB) would help extend banking services to the unbanked but the coefficient of CBB was found to be negative in the short and long-run, but significant in the short-run. This implies that amidst increase in CBB, PCI was reducing. A plausible reason for this scenario could be due to the fact that commercial banks, even when located in rural areas, mobilize savings but fail to extend credit to small scale business people due to fear of default. This implies that the rural populace is yet to fully benefit from bank branches closer to them.

Also, it was found that commercial banks' credit to rural populace (CBCR) had positive effect on PCI in both the long and short-run, but failed to make a significant impact. Truly, the positive effect of CBCR was justified on the grounds that it provides a source of funding for productive ventures among the rural populace. On the other hand, the insignificance of CBCR could be attributed to the fact that commercial banks have not extended credit sufficient enough to drive rural productivity. In support of this finding, Ajibe (2015), attributed low credit extension to rural populace to high lending rate of commercial banks in Nigeria. Also, Onaolapo (2015), attributed low credit to rural populace to vagaries associated with farming activities of which most rural dwellers are engaged in. Based on this premise, low credit could spur poverty as PCI would be increasing at a very slow pace, thus reflecting low productivity per head.

Again, deposit mobilization in the rural areas (CBDR) had negative and significant effects on PCI in the long-run, but had a positive and insignificant effects in the short-run. This implies that deposit mobilization by commercial banks does not have immediate effect on PCI, but over a long period, it begins to exert negative effect on PCI as such funds with the banks are usually channeled to rich customers other than the rural dwellers that made the deposits. Hence, this could lead to loss of investments as PCI drops in the long-run. Studies such as, Nkwede (2015); Onaolapo (2015), state that accumulation of deposits from rural dwellers without credit extension to them could cause negative effect to PCI in the long-run, hence increase in poverty.

Looking at the effect of number of microfinance banks' branches (MCBB) was significant to PCI, but caused diminishing effect on PCI. This could be as a result of inability of the microfinance banks to effectively penetrate into the economy. For instance, the microfinance banks are being dominated by the commercial banks and they lack the level of patronage they desire to make a positive impact on the economy. However, microfinance banks credit had positive and significant effect on PCI in the short-run indicating that microfinance banks could drive productive activities. The findings were in tandem with prior empirical studies such as Migap (2015); Quanda (2018), who asserted that microfinance banks facilitates financial inclusion and poverty reduction.

7. CONCLUSION AND RECOMMENDATIONS

The study empirically investigated the effect of financial inclusion on poverty alleviation in Nigeria using data from 1992 to 2018. Findings from the ARDL analysis revealed that: mobile money operations and electronic money transfers had positive effect on PCI in Nigeria, but it was significant in the short-run. Although number of commercial banks' branches had negative effect on PCI in the long-run and short-run, it was found to exert significant effect on PCI in the short-run. In both the long-run and short-run, commercial banks' credit did not exert significant effect on PCI, though the coefficient was positive. deposit of rural populace had negative and significant long-run effect on PCI, but turned positive and insignificant in the short-run. Number of microfinance banks' branches caused a diminishing and significant effect on PCI in the long-run and short-run. Microfinance banks' credit had a significant positive effect on PCI in the short-run, but had a positive and insignificant long-run effect on PCI. Deposit mobilized by microfinance banks has no significant effect on PCI in the long-run and short-run respectively. This thesis set out to study the effect of financial inclusion on poverty alleviation in Nigeria. Econometric models were developed with the aid of empirical and the theoretical literature on the relationship between financial inclusion and poverty alleviation. Empirical results showed that measures of financial inclusion explained large proportion (79%) of the total variations in PCI.

Specifically, in the long-run, deposits of rural commercial banks and number of microfinance banks branches were the most significant financial inclusion proxies. On the other hand, in the short-run, mobile money operations and electronic transfers, number of commercial banks branches, microfinance banks branches and microfinance banks credits were the most significant factors that affected PCI. These findings showed that financial inclusion affects PCI through different channels at different periods through commercial banks and microfinance banks. Hence, it was concluded that financial inclusion is transmitted through the commercial and microfinance banks in Nigeria.

Having analyzed the effect of financial inclusion on poverty alleviation in Nigeria, the following recommendations were made: With the progress towards a cashless society

through electronic money transfers and mobile operations in Nigeria, the Central Bank of Nigeria should ensure the safety, efficiency and effectiveness of the domestic banking system. Such a transformation policy needs gradual implementation preceded by aggressive public enlightenment. Specifically, more media platforms and different languages with local means of communication should be deployed to enhance the use of electronic money transfers and mobile operations across the country. Commercial banks should thrive and establish more branches across the country so as to take financial services closer to the people, especially those in the rural areas. This will enable funds mobilization as well as to give financial advice and assistance to business owners located in the interior parts, hence growth in business activities and poverty reduction. Commercial bank credits to the rural areas has a positive effect on poverty alleviation in Nigeria, hence, the Federal Government through the Central Bank of Nigeria (CBN), should strengthen the Banking Sector to ensure improvement in credit flow to the activity sectors because of its strategic importance in reducing poverty. Also, savings behavior of the various agents (household, corporate, non-corporate, and government) should be rigorously analyzed and their findings should be used in policy formulations and decisions towards poverty alleviation. More branches of microfinance banks with functional and adequate number of automated teller machines (ATM) to be located in both urban and rural areas. The newly established NIRSAL National Microfinance Bank should be encouraged to open at least two (2) branches in every state of Nigeria. This will create employments for the citizens, encourage accessibility to financial services at affordable cost and become an agent for poverty alleviation purposes. It is also recommended that the Monetary Authorities and Regulatory Institutions should play effective role in ensuring that cost of micro-funds is affordable, and that microfinance banks amass deposit but extend adequate microcredit to the target population. Government should improve the level of infrastructure (roads, electricity etc.) in the country to enable Financial Institutions to comfortably penetrate rural areas and mobilize deposits for investments towards alleviation of poverty in the country. The Tiered Know Your Customer system is not effectively adhered to due to poor Identity Card Management process. The Government should design an effective identity card system, like in India, to curb the surge in fraudulent activities in the country. That will enable the commercial and microfinance banks to expand their credit portfolios. Enforcement of birth-control is a fundamental element in checking population growth. In comparison with India, Nigeria's population does not have a restriction and the growth rate does not also seem to match Government Intervention Strategies. Effective birth control measures to be put in place. The Federal Government, through the Federal Ministry of Finance and the Central Bank of Nigeria, should mandate States to operate their own banks, with at least 3 branches in each of the 360 Federal Constituencies in Nigeria. This will create not less than 1080 additional bank branches nationwide. It will not only reduce the high Bank/ Population density but will create more employment and also expose more citizens to banking products and services.

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THE INFLUENCE OF EMPLOYEE COMMITMENT ON ORGANIZATIONAL CAPABILITIES IN NIGERIAN BOTTLING FIRMS IN SOUTH EAST

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Abstract: The study focused on employee commitment and organizational capabilities in Nigerian Bottling Firms, South-East. Inadequate wages and working conditions are also significant variables affecting employee commitment. The study adopted survey design and questionnaire as instrument for data collection. The total population of the study comprised of 610 participants from the cadre of senior level managers, middle level managers, and lower-level staff/subordinates of the firm. The sample size was determined using Taro Yamane formula and calculated as 242. Simple random sampling technique was adopted in the distribution of the survey. Out of 242 questionnaires administered only 226 were filled and returned while the remaining 16 were not utilized for the study. The results of hypothesis showed a strong correlation between employee motivation and organizational competitiveness. The researchers recommend managers to routinely re-evaluate their organizational strengths and weaknesses and work with the human resources department to fill competency shortages.

Keywords: employee commitment, motivation, organizational capabilities, organizational competitiveness.

1. INTRODUCTION

Employees' specialized expertise has greatly aided the Nigerian Bottling Company, allowing for smarter business planning and execution. Capabilities are not just found in manufacturing firms, but also in the education sector, where teachers often use digital technology (the internet) to conduct research in order to provide their students with a more well-rounded education. Students at all levels of education have benefited from the dissemination of cutting-edge research findings and the widespread adoption of digital learning tools. The experience and skill of their employees is an asset to any firm.

Competence problems are plaguing businesses of all types and sizes, and organizations everywhere are being pressed to do more with less (Nabukeera, Ali, & Raja, 2015). Because of these issues, it is more important than ever for enterprises in countries that practice global integration to improve their efficiency. Most businesses have sought for

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methods to improve their innovative and value creation capabilities (Kylliäinen, 2019; Tanner, 2020; Mind-Tools, 2021).

Employees are a crucial resource for attaining business objectives and preserving competitiveness in the corporate environment (Andrew, 2017). According to Riasat, Aslam, and Nisar (2016), organizations depend on devoted employees to create and maintain competitive advantages and achieve exceptional performance. According to Helfat and Peteraf (2003), organizations work to achieve long-term organizational solutions by putting in place top-down organizational structures that concentrate on the creation and ongoing development of firm-specific capabilities in order to handle organizational issues in a flexible manner. Because of their organizational capabilities, businesses operate differently, and the level of employee commitment to the company affects corporate performance.

The level of dedication shown by employees is frequently touted as a major component in determining a company's success. This is because dedication, job satisfaction, motivation, and involvement are crucial to a company's success (Bronwyn, 2019). Employees that are devoted to their work are more likely to go above and beyond in their efforts to benefit their employer. Employee commitment, as defined by the author, is the bond between an employee and his or her company.

A number of authors have emphasized the value of employee dedication. According to Park, Christie, and Sype (2014), committed employees are more likely to engage in organizational citizenship action (OCA), which are extra-role behaviors like invention or creativity that give businesses a competitive edge. Previous studies have discovered a robust connection between employee commitment and organizational effectiveness. Ekienabor (2018) found that all three types of commitment emotional, normative, and continuous had a substantial effect on organizational performance. Another study by Berberoglu (2018) confirms the importance of dedication in predicting an organization's success. Other studies by Racheal, Gabriel, and Chinyere (2020) found a strong connection between employee dedication and company success.

The Influence of employee motivation on organizational competitiveness in Nigerian bottling firms in South East Nigeria are unexplored areas, which motivates the researchers to study these relationships. The purpose of this study is to fill this gap. The study's connecting problem statement is outlined in full below.

Inadequate wages and working conditions are also significant variables affecting employee commitment. When an outstanding performer departs a key department or division, it weakens the team's overall strength, creativity, and competitive edge. A company can gain an advantage over its competitors by making better use of its human resources. Employee morale, productivity, and dedication to the company's mission can all take a hit if they aren't compensated fairly. Failure to manage staff motivation, excessive employee turnover, competitive compensation, and opportunities for training and development can have a significant impact on a company's operational success. The establishment of the company's core values and the attainment of its objectives may be hampered as a result. The study is required to deal with these issues.

2. REVIEW OF RELATED LITERATURE

2.1. The Concept of Employee Commitment

Princy and Rebeka (2019) describe employee commitment in terms of employee's dedication to their job. The authors contend that the success and productivity of a company would improve if investments were made to inspire personnel. When a company provides its

workers with above-average wages, employment stability, and promotional possibilities, it attracts and retains a more dedicated workforce. On the other hand, disengagement is what happens when a company fails to provide a pleasant workplace for its employees. Motivated workers would rather contribute to the success of their company than pursue their own personal goals. Employees would be content in their employment because of their positive attitude and eagerness to learn. The authors propose that in order to increase productivity, businesses should make improving employee loyalty a top priority.

2.1.1. The Concept of Employee Motivation

Employee motivation is the propensity for employees to drive, seek, and complete job goals and activities, according to Heathfield (2015). Workers are motivated to act and behave in a particular way, which may have an impact on their organization. Cash, travel, overtime, and extra compensation are all considered to be very important motivating factors for employees. Yousaf et al. (2016) claim that allowances play a crucial role in motivating employees. They are monetary incentives that help raise staff morale and foster a sense of community.

According to Agbajie (2017), employees are an essential component of any organization because they make up the workforce of any given establishment. The author urged companies to make sure that workers were sufficiently motivated if they wanted to prevent a gradual drop in employee performance levels. Employee motivation, in Agbajie's opinion, helps a firm succeed in retaining a competitive advantage over its competitors. In his own opinion, Aluko (2014) concurred that an organization is only as good as the personnel that manages it. Through employee motivation, there is a chance that employee morale will be high, resulting in improved performance, productivity, and output level.

2.1.1.1. The Concept of Organizational Capabilities

According to Kelchner (2018), organizational capability refers to a company's capacity to efficiently manage resources, such as personnel, in order to outperform rivals. According to Dosi, Nelson, and Winter (2000), organizational competencies allow organizations to operate successfully in a firm-specific manner with important structural issues. It is well established that knowledge of an organization executing particular problem-specific activities is associated with organizational capabilities. It is generally acknowledged that only a small number of core competencies must be developed for a corporation to be competitive.

In Dubihlela's (2013) opinion, strategic firm capabilities contribute to the development of a firm's strength and its ability to stand out in the market and satisfy customers. The foundation for a company's ability to maintain a competitive edge over the long term is its capacity to adapt and build new capabilities in order to counter and control the changing business environment. Similar to this, a company's organizational structure and its capabilities allow it to modify its competencies in order to respond to environmental changes (Teece et al., 2017).

2.1.1.1.1. The Concept of Organizational Capabilities

According to Anna (2020), a company's degree of productivity is determined by a set of strategies, policies, and other elements that make up its competitiveness. Cost leadership, differentiation, and focus are examples of strategies for gaining a competitive edge. These

elements provide businesses an advantage in generating a distinctive and better product than their competitors. The goal of the cost leadership strategy is to become the market's lowest-cost producer. This is accomplished by creating highly effective processes, mass production, continuous improvement, and establishing a selling price that cannot be matched by competing businesses (Corporate Finance Institute, CFI, 2015; Meyer, 2022).

Competitiveness, according to Twin (2021), refers to elements that enable businesses to create goods or services at prices lower than their rivals. In the authors' opinion, this is what sets apart an entity's products or services from those of its competitors. Cost structure, branding (differentiation), the calibre of product offerings, the distribution network, intellectual property, turnaround, internet services, and customer service are some of the elements that allow the producing entity to outperform its competitors in terms of sales or profit margins (Twin, 2021; Ugwu, Emerole, Duru, & Kekeocha, 2021).

Organizational competitiveness is the capacity of any entity (firm) to improve its competitive position by differentiate itself from others and maintain its market-leading position as a result of the advantages it has purposefully acquired via the development of superior and distinctive goods and services (Camison & Fores, 2015; Orozco, Serpell, Molenaar & Forcael, 2014). Businesses can benefit from a distinct competitive edge when they produce goods or services more profitably than their competitors.

2.2. Theoretical Framework

This study is anchored on Leader Member Exchange (LMX) postulated by Dansereau, Graen, and Haga in 1975. LMX theory explains the relationship between the superior and each subordinate accompanied by mutual trust, respect and devotion. According to the theory, leaders form different kinds of relationships with various groups of subordinates. One group, referred to as the in-group, is favored by the leader. Members of in-group receive considerably more attention from the leader and have more access to the organizational resources. By contrast, other subordinates fall into the out-group. These individuals are disfavored by the leader and receive fewer valued resources from their leaders (Erdogan & Bauer, 2015). Leaders distinguish between the in-group and out-group members on the basis of the perceived similarity with respect to personal characteristics, such as age, gender or personality. LMS fails to explain the particulars of how high-quality exchanges are created. It is objected on the grounds of fairness and justice as some followers receive special attention of leaders more than others in the workplace.

2.3. Empirical Review

Numerous scholars have carried out on employee motivation and organizational capabilities in both Nigeria and the rest of the world with mix result. Some of the studies were reviewed below. Shaban, Al-Zubi, and Alqotaish (2017) examined the impact of low morale and motivation on workers' productivity and competitiveness in Jordan. 276 participants from chosen accounting and management employees made up the study's population. The instrument used to collect the data was a questionnaire. Partial least square was used to test and assess the hypotheses. The outcome demonstrated that productivity and competitiveness were severely impacted by low morale and motivation.

Ugwu, Emerole, Duru, and Kekeocha (2017) looked at Nigerian competitive advantage and technological adoption determinants. Students pursuing postgraduate diplomas, master's degrees, and doctoral degrees at the Federal University of Technology in Owerri, Imo State, made up the study population. A sample of 257 pupils served as the source of the

primary data. A straightforward random sampling procedure was used to distribute the questionnaire. The Pearson Correlation method was used to evaluate the data and determine whether the variables were related. The findings showed that democratic characteristics, including educational attainment, household income, and internet usage, had a significant favorable impact on organizational inventiveness.

Dada, Alegbeleye, Ikonne, and Soyemi (2020) examined the relationship between organizational success and staff commitment using University Registries in South West, Nigeria. Data were gathered using a questionnaire and a survey study design. Two thousand, two hundred and eighty-two (2,282) registrar employees from universities in South West Nigeria made up the population. A sample size of 340 registry staff members was examined using the Yamane formula. Simple percentages and frequency counts were used to assess the data that was collected. A straightforward regression analysis method was used to evaluate the hypothesis. Employee commitment has a substantial association with organizational effectiveness, according to the results of the hypothesis test.

In South Africa, Govender and Parumasur (2010) looked into the connection between job involvement and employee motivation. 200 permanent and temporary employees from a variety of departments (acquisitions, automation, client's operation, and collections) at a branch of a financial institution make up the study's population. A probability simple random sampling strategy was used to choose samples of 145 respondents. Both descriptive and inferential statistics were used to analyze the data. The findings suggest that job participation and employee motivation have a significant link.

3. RESEARCH METHODOLOGY

The study employed Nigerian Bottling Company in South East Nigeria to examine the relationship between employee commitment and organizational capabilities. A correlational research design and questionnaire was used as instrument for data collection. There were 610 participants observed as study population. Both the organization's temporary (110) and permanent (500) staff members are included in the population structure. To accomplish the goals of the study, the researcher chose two plants from the South-East Nigerian regions of Owerri and Enugu. A questionnaire was employed as a tool for gathering data. The distribution of the survey to 242 personnel from the cadre of senior level managers, middle level managers, and lower-level staff/subordinates of the firm was done using a simple random sample technique.

An authority in the field of management was consulted to carry out both face and content validity checks to make sure the instrument adequately covers the subject in which the researcher is interested. To make sure the instrument has appropriate items that correlate with the subject matter examined, senior lecturers and professors were consulted. In order to find any flaws in the design or instruments, a pilot test of the questionnaire was done on five people. The Cronbach's alpha coefficient was used to conduct the reliability test. Given the foregoing, an overall Cronbach's Alpha coefficient of 0.9251 was determined. However, the test result was above 60%, proving the instrument's high level of dependability.

A basic regression or ordinary least squares model was used to statistically assess and analyze the data that the research question (hypothesis) had generated. For research objectives one, two, and three, a decision rule was used to determine whether to accept or reject the null and alternate (H_0 , H_A) hypotheses depending on whether the p-value was less than or larger than the crucial value at the 5% level of significance.

4. RESULT AND DISCUSSION OF FINDINGS

4.1. Presentation of Result

Statistical Package on Social Science (SPSS Version 20) was used to gather, tabulate, and analyze the data. Only 226 of the 242 copies of the questionnaire that were given to the respondents were filled out and returned; the 16 unreturned copies were used in the analysis.

4.1.1. Analysis of Research Hypothesis

Table 1 below shows participant response on research question one using five-point likert scales. Instruction: Please tick (✓) a response according to your own opinion using; strongly agree (SA=5), agree (AG=4), undecided (UN=3), disagree (DA=2) and strongly disagrees (SD=1).

Table 1. Investigative Questions on Production Planning and Service Quality

S/N	Test Questions	SA	AG	UN	DA	SD	Total
A	Employee Commitment						
	Employee Motivation Independent Variable						
1.	I have no complaints in my current position.	102	99	21	1	3	226
2.	Working with this company would help me advance professionally and find a better career.	98	93	28	4	2	226
3.	My company give me the chance to be successful in my line of work.	97	96	29	3	1	226
4.	My employer is aware of the additional effort I make at work.	94	103	25	1	3	226
5.	My manager treats me with respect and dignity.	99	101	19	6	1	226
6.	My current salary at work does not meet my needs.	98	104	17	3	4	226
7.	I'm motivated to provide my all-in order to meet the organization's objectives.	96	109	16	3	2	226
8.	People are suitably compensated for good achievement at my place of employment.	98	113	11	4	0	226
B.	Organizational Capabilities						
	Organizational Competitiveness (Dependent Variable)						
9.	The workforce here is diversified.	101	99	22	3	1	226
10.	Our employees are experts in their fields.	95	108	17	2	4	226
11.	To satisfy our consumers, we place a strong emphasis on high-quality items.	96	109	14	4	3	226
12.	We efficiently manage our resources to lower operating expenses and boost productivity.	97	108	16	3	2	226
13.	Because our products are incomparably superior to alternatives, we have an advantage in the desirable markets.	98	106	19	3	0	226
14.	High-skilled workers do a good job at their jobs.	105	99	11	8	3	226
15.	Opportunities for career growth aid in employee development.	101	118	5	0	2	226
16.	My firm is continuously looking for new business models in order to attain the intended outcome.	103	105	9	4	5	226

Source: (SPSS Version 20).

4.2. Test of Research Hypothesis

H_{A1} : Employee Commitment contributes significantly to Organizational Capabilities.

Reject the null hypothesis (H_0) when p-value is ≤ 0.05 ; otherwise accept the alternate (H_A) hypothesis. Since the p-value (.000) is less than the critical value (0.05), the alternate hypothesis which states that aggregate planning and strategic planning contribute to service quality was accepted; while the null hypothesis which states that aggregate planning and strategic planning do not contribute to service quality was therefore rejected. The result indicates that the relationship is statistically significant between the variables.

4.2.1. Decision Rule

Reject the null hypothesis (H_0) when p-value is ≤ 0.05 ; otherwise accept the alternate (H_A) hypothesis. Since the p-value (.000) is less than the critical value (0.05), the alternate hypothesis which states that aggregate planning and strategic planning contribute to service quality was accepted; while the null hypothesis which states that aggregate planning and strategic planning do not contribute to service quality was therefore rejected. The result indicates that the relationship is statistically significant between the variables (Table 2, Table 3 and Table 4).

Table 2. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.998 ^a	.996	.995	5.48602

Source: (SPSS Version 20)

Table 3. Analysis of Variance (ANOVA)

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	307112.234	1	307112.234	10204.296	.000 ^b
Residual	1384.433	225	30.096		
Total	308496.667	226			

Source: (SPSS Version 20)

- a. Dependent Variable: SQ
- b. Predictors: (Constant), SP, AP

Table 4. Simple Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.786	1.093		-.720	.475
	EM	1.011	.010	.998	101.016	.000

Source: (SPSS Version 20)

- c. Dependent Variable: OC
- d. Predictors: (Constant), EM

Model Specification

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_n X_n + e \quad (1)$$

Where:

X1 = EM represents employee motivation (dependent variable);

Y = OC represents organizational capabilities (independent variable);

The regression analysis can thus be restated as follows:

$$Y (OC) = 0.998 + 1.011 X1 \quad (2)$$

4.2. Discussion of Findings

In Table 4, the regression method was used to conduct research hypothesis one. The outcome shows that the p-value (0.00) was below the 5% threshold of significance critical value. The null hypothesis, which claims that employee motivation has no effect on organizational competitiveness, was therefore rejected in favor of the alternate hypothesis, which states that employee motivation influences organizational competitiveness. Similar to this, the R-Square value of 0.996 in table 5 above (model summary) shows that employee motivation accounts for 99.6% of the variation in the dependent variable, organizational competitiveness. As a result, we can conclude that the model is sound and the test result is valid.

5. FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1. Summary of Findings

The summary of the finding is presented below.

The results of hypothesis showed a strong correlation between organizational competitiveness and employee motivation. R Squared = .996, F cal. = 10204.296, Durbin Watson = 1.340, and P (value) = 0.000 were the results of a simple regression analysis.

5.1.1. Conclusion

The study's main goal is to investigate the nature of the relationship between organizational capabilities and employee commitment in a particular Nigerian bottling company in South East Nigeria. The answer to research question one demonstrated that employee motivation greatly affects an organization's ability to compete. According to research by Shaban, Al-Zubi, and Alqotaish (2017), low morale and motivation had a substantial impact on production and competitiveness.

5.1.1.1. Recommendations

Based on findings above, the following recommendations were made to guide this study.

- I. In order to accomplish organizational objectives, business executives must make sure to set aside time and identify their organizational capabilities.
- II. In order to foster a sense of belonging among employees, organizations are encouraged to develop job autonomy and design.
- III. Managers are urged to routinely re-evaluate the organizational strengths and weaknesses and work with the human resources department to fill competency shortages.

- IV. In order to forge a strong relationship between employees and their firm, employers are recommended to make efforts to improve employee skills and development through on-the-job training.

5.2. Future Research

Future research should examine capability management and competitive advantage using order industries (including, among others, the banking, oil, and gas, and education sectors). In order to make generalizations, the researcher advises using a mix of study methods (quantitative and qualitative).

5.3. Practical Implications of the Study

The findings confirmed that employee commitment contributes towards organizational capabilities in Nigerian Bottling Firms, South East. This research would be beneficial to beverage firms such as Coca-Cola and Seven Up Plc to deal with issues related to staff remuneration and high turnover rate in the workforce. The study would help human resource management in developing high performance workforce vital for achieving competitiveness.

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THE SERVQUAL METHOD AS A TOOL FOR INVESTIGATING THE QUALITY OF CLEANING SERVICES

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Abstract: This study explores the impact of service reliability, defined as timeliness, accuracy, and adherence to company promises, on customer satisfaction and loyalty in the cleaning services industry. Utilizing the SERVQUAL model, which evaluates five dimensions of service quality - reliability, responsiveness, assurance, empathy, and tangibles - this research employs a quantitative survey method to gather and analyze data from a diverse respondent base. The findings reveal that reliability is a crucial determinant of customer loyalty, significantly influencing their propensity to reuse the service. High reliability correlates strongly with increased customer satisfaction, which in turn enhances loyalty. The study provides vital insights for cleaning service companies, emphasizing that enhancing reliability can substantially impact their competitive success in the market. Additionally, the research discusses the importance of transparent communication and continuous feedback systems in fostering customer relationships and improving service processes. Given the limitations of the small sample size and demographic range, further research is recommended to generalize these findings across the broader cleaning service consumer base.

Keywords: Servqual, service quality measurement, cleaning industry, customer satisfaction, quality improvement.

1. INTRODUCTION

In the face of the transformation from manufacturing to service economies, understanding the factors that determine service quality plays a crucial role. Cleaning services, although they may seem like simple operational activities, require advanced management and continuous quality monitoring to meet the growing expectations of customers and the dynamically changing market. As an integral part of the broadly understood service sector, cleaning services constitute a significant area of research from the perspective of quality management and consumer satisfaction.

This paper aims to examine how reliability - understood as timeliness, accuracy of execution, and compliance of services with company declarations - affects the level of

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satisfaction and loyalty of customers using cleaning services. The SERVQUAL model, which allows for a comprehensive analysis of five dimensions of service quality: reliability, responsiveness, assurance, empathy, and tangibles, was used in this study. Using a quantitative method based on a wide-ranging survey, data were obtained that allowed for a detailed statistical analysis.

The structure of the article includes a literature review, research methodology, presentation and analysis of results, discussion, and final conclusions. The work aims not only to enrich the literature on the subject but also to provide practical tips for service enterprises aiming to optimize their operations by improving the quality of services provided.

Through a scientific approach to studying the quality of cleaning services, this article contributes to the understanding of how key operational aspects influence service perception by customers, which has a direct impact on their satisfaction and loyalty. This understanding is essential for effective management in the dynamically developing service sector, where quality and customer satisfaction become decisive factors for market success.

2. LITERATURE REVIEW

Services as an element of the modern economy play a role both in its functioning and in social life. The service sector, evolving with the dynamic economic environment, is part of global economic activity (Miles, 1993).

Services, broadly defined, are activities, processes, or actions that one party can offer to another and are essentially intangible and do not lead to any ownership. They include activities performed for individual consumers as well as business activities. Financial, educational, healthcare, and entertainment services are just a few examples from the wide spectrum of services available on the market (Wirtz & Zeithaml, 2018).

Understanding the nature of services is crucial in an economic context, especially in the face of market transformations that are turning production economies into service economies. Unlike goods, services are characterized by intangibility, heterogeneity, inseparability, and variability. According to Rogoziński's definition, a service is an action, experience, or benefit that is offered for sale and is essentially intangible and not directly tied to any product (Rogoziński, 2012).

In the economic context, services also impact the productivity and competitiveness of economies. According to Rubalcaba, innovations in services are key to economic growth and can be a catalyst for changes in other sectors of the economy (Rubalcaba, 2006).

The added value of services is linked to their ability to meet specific consumer needs, not just through the service act itself but also by creating an experience that is unique for each customer. This is particularly evident in industries such as tourism, hospitality, and gastronomy, where the customer experience is as important as the basic service (Lovelock & Gummesson, 2004).

Economic literature often emphasizes that services have an extraordinary ability to innovate and adapt, allowing for a quick response to changes in consumer preferences and market conditions. Information and communication technologies (ICT) play a fundamental role here, enabling the offering of services remotely and the virtualization of many processes, which reduces operational costs and allows for global business reach (Brynjolfsson & Hitt, 1998).

The service sector is also a major beneficiary of globalization processes. Globalization opens new markets and creates demand for cross-border services, contributing to the growth of international service exchange. At the same time, globalization requires service enterprises

to continuously improve quality, adapt to diverse customer needs, and meet international standards (Dunning, 1993).

Cleaning services encompass a wide range of activities aimed at maintaining cleanliness and order in various environments, both in residential and commercial spaces. Characteristic of this industry is that these services are often provided in places used by clients, such as homes, offices, schools, or medical facilities, which requires the adaptation of cleaning methods and agents to the specific needs and requirements of each place. It is important that cleaning services are not limited to removing visible dirt but also to eliminating invisible contaminants, which is crucial for maintaining hygiene and health (Bloomfield et al., 2006).

In Poland, the professional cleaning maintenance segment reached a turnover exceeding PLN 5 billion, of which PLN 2 billion came from public tenders (Branzaczystosci, 2018). This sector is attracting increasing interest from both enterprises and individual clients, indicating its growing importance in the country's economy. It is worth noting that the market for cleaning services in Poland is growing at a rate of about 20% per year, indicating the dynamic development of this industry (Grandviewresearch, 2023).

Cleaning services is a complex and diverse sector, encompassing both everyday cleanliness maintenance activities and more specialized tasks. In the scope of these services, one can distinguish eco-friendly cleaning using environmentally friendly agents and home cleaning, which may include general cleaning, cleaning Airbnb apartments, cleaning during moves, as well as carpet cleaning and window washing. Deep cleaning services are also important, emphasizing more thorough tasks such as window washing or baseboard cleaning. Among commercial services, there are office space cleaning, hotel room cleaning, bathroom cleaning, as well as concierge services and cleaning in medical facilities. Specialized services, such as kitchen cleaning in restaurants, involve maintaining kitchen equipment, and air duct cleaning services focus on improving indoor air quality. This sector also includes important upholstery cleaning services, requiring skills to work with various materials, and mold removal services, which require appropriate training and certification. In the area of concierge (janitorial) services, companies offer comprehensive cleaning services for large commercial buildings, while pressure cleaning services use a high-pressure water stream to clean external surfaces of buildings, driveways, and vehicles (Researchdive, 2023).

In the cleaning services sector, sustainable and eco-friendly methods are playing an increasingly important role, which is a result of tightening environmental regulations and growing ecological awareness among consumers. Cleaning companies are increasingly using biodegradable and non-toxic cleaning agents that have a lesser impact on the environment and allow companies to reduce their ecological footprint. This trend towards more sustainable and eco-friendly cleaning procedures is becoming a key element of the market strategies of cleaning companies.

In response to these challenges, cleaning companies are increasingly adopting sustainable working methods, known as "green cleaning," which aim to reduce the negative impact on the environment by limiting the use of harmful chemicals and increasing the efficiency of water and energy use. Additionally, the development of technologies, including automation and business process management software, allows companies to increase the efficiency, accuracy, and profitability of their operations. (Cintas et al., 2009)

Cleaning services classification, based on available data, can be divided into two main categories: corporate (commercial) and residential (home) cleaning. Each of these categories is characterized by specific features and requirements that have a direct impact on management, work organization, and the techniques and tools used (Klungseth & Blakstad, 2016).

Corporate cleaning refers to cleaning services carried out in a business environment, such as offices, retail facilities, educational institutions, or manufacturing plants. These services require not only maintaining cleanliness and hygiene but often also have to meet specific corporate or industry standards. For example, in medical facilities or laboratories, cleaning must meet stringent sanitary and safety requirements. In a corporate context, cleaning may involve a range of activities, from daily maintenance of cleanliness to specialized tasks such as carpet cleaning, floor care, window washing, or disinfection. An important aspect here is also time management and flexibility, so that cleaning services do not interfere with the normal functioning of the enterprise (Ikenwa & Olusegun, 2019).

Home cleaning, on the other hand, focuses on cleaning and maintaining order in private homes and apartments. These services are more personalized, often tailored to specific needs and wishes of clients. Home cleaning may include regular cleaning, deep seasonal cleaning, cleaning after renovations or moves, and specialized services such as carpet cleaning or curtain laundering. In this case, understanding client expectations and providing high-quality services while maintaining discretion and respect for client privacy is important. Home cleaning also requires flexibility due to the diverse schedules of clients' lives.

In both cases, whether corporate or home cleaning, ensuring high-quality services is crucial, which requires careful selection of staff, appropriate training, and the use of effective cleaning methods and tools. Differences in management and work organization in these two types of cleaning services reflect the diversity of needs and expectations of clients, as well as the specificity of the environment in which services are provided.

The components of cleaning services are diverse and complex, including a range of factors that are key to providing high-quality services. In both residential and commercial cleaning services, important aspects include staff, training, safety, industry practices, technologies, as well as communication and flexibility in cleaning plans (Lee et al., 2022).

Customer expectations in terms of cleaning services can be diverse and depend on individual needs. The definition of "cleanliness" is often subjective and may vary depending on the client. Therefore, it is important for cleaning companies to understand and precisely define their clients' expectations. The Cleaning Industry Management Standard (CIMS) by ISSA indicates that service quality is achieved by defining customer requirements and confirming compliance with these requirements. Tools such as surveys, inspections, the number of complaints, and customer ratings are essential for measuring a company's success in meeting these expectations (Cims, 2023; Godbersen & Wenzel, 2022).

A study conducted by the Edelman Trust Barometer indicates that trust in a brand is the second most important factor determining consumer product choices (53% among 22,000 respondents in 11 markets). People who have high trust in a brand are more likely to buy its products, even when cheaper alternatives are available, and are also more likely to recommend and defend the brand. Consumers are increasingly paying attention to how companies treat their employees and whether they emphasize safety (Edelman, 2023).

Quality and standards in services play a fundamental role in shaping customer experiences and satisfaction, which directly impacts the success of service enterprises. Service quality assessment, a key element of management and service improvement, can be conducted using various methods.

One of the commonly used methods for assessing service quality is the SERVQUAL model, proposed by Parasuraman, Zeithaml, and Berry. This model is based on five dimensions: reliability, assurance, empathy, responsiveness, and the tangible aspect. SERVQUAL measures the difference between customer expectations and their perception of the service actually received. This tool allows enterprises to identify gaps in service quality and take appropriate corrective actions (Parasuraman et al. 1988).

The SERVQUAL model, an acronym from the English words “service” and “quality” is a significant tool for assessing service quality. It was developed in 1985 by American marketing specialists - Valarie Zeithaml, A. Parasuraman, and Leonard Berry. This model focuses on quantifying the discrepancy between customer expectations and their perception of received services. Its application includes various industries, especially the non-medical sector, and serves as a method to capture and measure the quality of services experienced by customers (Jonkisz et al., 2022).

SERVQUAL operates on the principle of identifying gaps between the expected level of services and the services actually provided. The basis of the model is the recognition of discrepancies or gaps that occur in the service delivery process. These frameworks provide a standardized approach to assessing service quality, enabling companies to effectively measure and control the standards of their services (Questionpro, 2023).

Moreover, the SERVQUAL model serves as an assessment system that reflects the perceptions and expectations of consumers of received services. It is widely used in measuring and managing service quality marketing, making it a valuable tool for companies striving to understand and improve their customer service (Toolshero, 2023).

The five dimensions of service quality in the SERVQUAL model include: Reliability: Refers to a company's ability to consistently deliver promised services reliably and accurately. In the cleaning industry, reliability can be assessed based on the regularity and accuracy of provided cleaning services. Responsiveness: The readiness of staff to assist customers and respond quickly to their inquiries and requests. In the cleaning industry, quick response to customer needs, such as urgent cleaning requests or special requests, is crucial. Assurance: Related to the competencies, courtesy of staff, and their ability to inspire trust and a sense of security. In cleaning, this can include the professionalism of employees, their trustworthiness, and ability to convey clear information. Empathy: Refers to the individual approach and care a company shows its customers. In cleaning services, empathy can be demonstrated by tailoring services to individual needs and expectations of the client. Tangibles: Concerns the tangible aspects of the service, such as equipment, staff, and communication materials. In the cleaning industry, tangibility can refer to the condition of cleaning equipment, the appearance of staff, or the quality of cleaning agents used. Applying the SERVQUAL model in the cleaning industry allows for a systematic assessment of these dimensions and identification of areas where services can be improved. For example, a cleaning company may discover that it needs to improve communication with clients (responsiveness) or invest in better equipment (tangibility) to enhance overall customer satisfaction (Zeithaml et al., 1996).

Studying how individual elements of service quality models, such as tangibles, reliability, and responsiveness, relate to the cleaning service industry requires thorough analysis and the application of appropriate theoretical frameworks. In the service quality model, tangibles refer to the physical aspects of the service, including equipment, staff, and visual communication. In the context of cleaning services, tangibles can be assessed through cleanliness standards, the appearance and professionalism of staff, and the quality of tools and materials used (Parasuraman et al., 1988). Reliability, or reliability, refers to the service provider's ability to perform the promised service effectively and accurately. For cleaning companies, reliability can be measured through the consistency of cleanliness standards, timeliness, and accuracy in fulfilling scheduled tasks (Grönroos, 1984).

Responsiveness, or responsiveness, is a measure of how quickly and effectively a company responds to the needs and inquiries of customers. In the cleaning industry, a quick response to customer requests, flexibility in adapting to their changing needs, and effective problem-solving are key to maintaining high-quality services (Zeithaml, 1996).

Understanding these dimensions and their application in practice can significantly impact customers' perception of quality and the overall success of a company in the cleaning service industry. Studying these aspects requires the use of quantitative and qualitative methods, such as customer satisfaction surveys, case studies, and operational data analysis, to obtain a comprehensive picture of the impact of these dimensions on service quality. In the course of analysis, attention should also be paid to elements such as empathy and assurance. Empathy, understood as an individual approach and care for the customer, is particularly important in the service industry. In the context of cleaning services, empathy can be expressed through the personalization of services, taking into account specific needs and preferences of clients, and building long-term relationships based on trust (Parasuraman et al., 1990).

Assurance, or assurance, refers to the knowledge, courtesy of staff, and their ability to inspire trust and confidence in clients. In the cleaning sector, assurance may be perceived by clients through the professionalism of employees, their knowledge of cleaning techniques, and their ability to communicate effectively. It is also worth noting that the perception of service quality may vary depending on the market segment and the specifics of a particular niche. For example, the expectations of individual customers may differ from those of business customers, requiring cleaning companies to be flexible and able to adapt their services to diverse needs. Adapting the SERVQUAL model to the cleaning service industry, with particular emphasis on factors such as sanitation, timeliness, and accuracy, appears to be a relatively under-researched area. However, there is an example of its adaptation in a related context. A study conducted in the healthcare sector in Ghana adapted the SERVQUAL model, incorporating sanitary and hygiene indicators, highlighting the flexibility of the SERVQUAL model in terms of including specific service quality dimensions appropriate for different industries. This adaptation, called ADAPTED SERVQUAL, included a new dimension - "sanitation and hygiene" - alongside traditional dimensions such as tangibility, reliability, responsiveness, assurance, and empathy. This new dimension significantly contributed to the overall assessment of service quality in the healthcare context, demonstrating the potential for similar adaptations in the cleaning service industry (Asiamah et al., 2021).

This example shows the ability of the SERVQUAL model to be modified to include unique aspects of different service sectors, including those most important in cleaning services, such as sanitation and hygiene. However, specific case studies or examples directly from the cleaning service industry were not easily found in the available literature, indicating a possible gap in research in this particular application of the SERVQUAL model. This suggests the possibility of future research aimed at exploring and documenting how the SERVQUAL model can be effectively adapted to measure service quality in the cleaning industry, taking into account its unique operational features and customer expectations.

3. DATA AND METHODOLOGY

The choice of a quantitative method to conduct research on cleaning services was dictated by several key factors. Firstly, the use of a survey allowed for data collection from a broad and diverse group of respondents, which is crucial for ensuring the representativeness of the results. The quantitative method also enabled the standardization of questions, which is important in the context of ensuring uniformity of responses and their subsequent statistical analysis.

This approach enabled a detailed numerical analysis that provides measurable results, such as average ratings, standard deviations, and other statistical indicators. These numerical representations of data are particularly useful in assessing the level of customer satisfaction

and identifying areas needing improvement. Additionally, the quantitative method allows for easy comparison of data from different groups of respondents and over different periods, which is invaluable in tracking changes and trends in the cleaning services market.

In this study, the SERVQUAL model was used, which focuses on five dimensions of service quality: reliability, responsiveness, assurance, empathy, and tangibles. In the context of the cleaning industry, these dimensions can be interpreted as the reliability of services, the speed of response to inquiries and customer needs, the competence and courtesy of employees, the ability to build trust and create personal relationships, and the tangible aspects of the service, such as the appearance and behavior of staff and equipment.

Adapting the SERVQUAL model to the cleaning services industry with particular emphasis on factors such as sanitation, timeliness, and accuracy, is a relatively under-researched area. However, there is an example of adaptation of the model in the healthcare sector, where sanitary and hygiene indicators were included, highlighting the flexibility of the SERVQUAL model in terms of incorporating specific service quality dimensions suitable for different industries.

In the commercial cleaning sector, SERVQUAL must be adapted to assess factors such as efficiency, accuracy, customization to customer needs, and adherence to hygiene and safety standards. In home cleaning, where customer relationships and individual approach take on greater importance, SERVQUAL should focus on personalization of services, trust, and attention to detail. Modified versions of the questionnaire should also consider technological aspects of cleaning, such as the use of advanced equipment and eco-friendly cleaning agents, and cultural differences in customer expectations.

The importance of service quality is closely linked to customer satisfaction, where the goal is to meet or exceed customer expectations. Therefore, service quality assessment models, such as SERVQUAL, must consider various aspects, such as availability, courtesy, competence, and responsiveness, which are crucial in customer service.

Data for the study were collected using a survey that was carefully designed to provide accurate and detailed information about various aspects of the services provided. The survey was directed at the person using the service, and its structure enabled a precise assessment of service quality, as well as the degree of customer satisfaction with various elements of the service provided.

The survey focused on a wide range of topics, from general promises and reliability of services, through quality of communication with the customer, to specific operational aspects, such as timeliness and employee education. These elements were analyzed to better understand which aspects of services are most important to customers and how effectively cleaning companies meet their customers' expectations.

In the study, survey questionnaires were used, which were built to assess the quality of cleaning services and customer satisfaction. The questionnaires contained scaled questions that allowed for the assessment of individual aspects of the service, open questions that provided space for detailed comments, and demographic questions for characterizing the respondents. Individual factors within the scope of the study were rated by respondents using a Likert scale – a 7-point scale, whose application allows for greater diversification of responses among the surveyed.

The purposive selection of participants allowed focusing on a group that was most interested in the quality and efficiency of cleaning services. This made it possible to obtain deep and significant insights that can serve as a basis for further market analysis and for developing strategies to increase customer satisfaction and loyalty.

The representativeness and purposiveness of the research sample provide a solid foundation for data analysis and interpretation of results. This makes it possible to develop

specific recommendations for cleaning companies in terms of improving service quality, tailoring the offer to customer needs, and strengthening the positive brand image in the market.

The study conducted aimed to collect data from 122 respondents, selected according to specific demographic and socioeconomic criteria. The research group included people aged from 17 to 69 years, with a majority of people around 34 years old. The gender of the respondents was evenly distributed with a slight predominance of women (53.3%) over men (46.7%).

Respondents came from various residential environments, including cities of different sizes and rural areas. Most people lived in cities with more than 200,000 residents (42.6%), suggesting that the study focused on an urban population. The environmental diversity of the respondents allowed for the inclusion of various perspectives related to living conditions in different types of localities.

In terms of education, most respondents had higher education, both at the bachelor's, engineer's, and master's level, which accounted for about 63% of the group. The rest of the respondents had secondary education or higher doctoral education, indicating that the study might focus on better-educated individuals.

Diversity also occurred in terms of professional activity, where the majority of respondents were full-time employees (54.1%) and entrepreneurs (26.2%). Analyzing income, it was found that most earned between PLN 2,501 and PLN 10,000 per month, which may indicate a moderate to high standard of living for the study participants.

Table 1. Reliability Statistics

Alfa Cronbach's	Number of Items
0.972	22

The reliability analysis conducted in the study, measured using the Cronbach's Alpha coefficient, aimed to assess the internal consistency of the set of questions in the measurement scale. The Cronbach's Alpha result of 0.972 is very high (Table 1), which is typically interpreted as a sign of a well-constructed scale with well-harmonized questions. A high Cronbach's Alpha coefficient suggests that the scale items are strongly correlated, consistently measuring the same concept or feature.

The factor analysis conducted on a dataset containing variables from O1 to O22 was applied to identify the underlying dimensions that could explain patterns of variance in respondent answers. These variables were divided into two groups, representing two different but significant psychological dimensions: "Reliability and Assurance" (O1-O11) and "Responsiveness and Empathy" (O12-O22).

In the first phase, the use of the principal components method allowed for the reduction of data multidimensionality to several factors that explain the largest part of the variance in the data set. The Varimax rotation was applied aiming to maximize the dispersion of factor loadings on each factor.

Table 2. The factor analysis

Variables	Component Initial eigenvalues			Sums of squared charges after extraction		
	Total	% variance	% cumulative	Total	% variance	% cumulative
As promised	14,137	64,258	64,258	14,137	64,258	64,258
Reliability	1,428	6,490	70,749	1,428	6,490	70,749
Regularity	0,853	3,878	74,627			
Punctuality	0,810	3,682	78,310			
Flawlessness	0,602	2,736	81,045			
Information about the date	0,545	2,476	83,522			
Speed	0,452	2,053	85,575			
Customer support	0,428	1,946	87,521			
Readiness for dialogue	0,395	1,794	89,316			
Trust	0,307	1,397	90,712			
Security	0,291	1,323	92,035			
Kindness	0,272	1,236	93,271			
Educated employees	0,242	1,099	94,370			
Individual approach	0,203	0,923	95,293			
Care	0,188	0,853	96,146			
Customer focus	0,178	0,810	96,956			
Understanding needs	0,154	0,698	97,654			
Convenient hours	0,142	0,645	98,299			
Modern equipment	0,132	0,602	98,900			
Amenities	0,096	0,438	99,338			
Professionalism	0,081	0,370	99,708			
Attractiveness	0,064	0,292	100,000			

The results of the factor analysis (Table 2) indicated that there are two main factors that correspond well to the previously defined dimensions. The first factor is concentrated around variables O1-O11, suggesting that these questions effectively measure concepts related to “Reliability and Assurance”. The second factor, encompassing variables O12-O22, relates to “Responsiveness and Empathy”.

Table 3. The rotated component matrix

	Component	
	Credibility and Confidence	Responsiveness and Empathy
As promised by O1	0,860	0,158
Punctuality O4	0,832	0,327
Information about the date O6	0,784	0,413
Reliability O2	0,783	0,362
Trust O10	0,774	0,394
Flawlessness O5	0,773	0,392
Security O11	0,761	0,462
Correct O3	0,689	0,387
Customer Support O8	0,676	0,535
Speed O7	0,609	0,396
Readiness for dialogue O9	0,574	0,475
The appeal of O22	0,176	0,861
Amenities O20	0,337	0,825
Modern equipment O19	0,297	0,798
Professionalism O21	0,390	0,750
Educated employees O13	0,367	0,712
Customer focus O16	0,572	0,685
Understanding the needs of O17	0,493	0,657
Kindness O12	0,525	0,648
Caring O15	0,517	0,616
Individual approach O14	0,548	0,601
Convenient hours: O6	0,502	0,591

The rotated component matrix (Table 3) provided additional guidance on how individual variables contribute to each of the factors. Higher loadings for specific variables on certain factors illustrate which aspects of “Reliability and Assurance” and “Responsiveness and Empathy” are most significant in the context of the studied data set.

This comprehensive analysis facilitates the understanding of key service quality dimensions and their impact on customer satisfaction, guiding strategic improvements in service delivery and customer relationship management.

Factor Analysis continued on the variables D1-D22 aimed at detecting underlying structures that could explain variance patterns observed in the responses of study participants. The variables were divided into two categories corresponding to two dimensions: “Tangibility” (variables D20, D22, D13, D19) and “Reliability” (variables D1, D2, D3, D4). The analysis's objective was to determine whether these groups of variables indeed form two distinct, but coherent constructs (Table 4).

The first factor was concentrated around variables D1, D2, D3, D4, correlating with the expected dimension of “Reliability”. These variables, characterized by high loadings on this factor, clearly represented concepts associated with honesty and reliability. The second factor, grouping variables D20, D22, D13, D19, corresponded to the dimension of “Tangibility”, suggesting that these variables effectively reflect aspects related to tangible values and amenities experienced by recipients of cleaning services.

Table 4. The rotated component matrix

	Variables	
	Materiality	Reliability
As promised by D20	0,827	0,392
D22 reliability	0,822	0,154
Correctness D13	0,796	0,378
D19 punctuality	0,776	0,337
D16 flawlessness	0,731	0,548
Information about the date D21	0,728	0,525
Speed D15	0,713	0,504
D9 Customer Support	0,692	0,533
Readiness for dialogue D12	0,691	0,540
Trust D17	0,685	0,587
D10 security	0,684	0,584
Courtesy D11	0,682	0,620
Educated employees D14	0,674	0,475
Individual approach D8	0,648	0,598
Caring D1	0,287	0,838
D2 customer focus	0,355	0,798
Understanding D4 needs	0,327	0,796
Convenient hours D3	0,314	0,784
Modern D6 equipment	0,457	0,662
D5 facilities	0,575	0,638
Professionalism D7	0,605	0,616
Attractiveness D18	0,450	0,615

Regression Analysis The regression analysis focused on identifying factors influencing customers' willingness to return, a key indicator of customer loyalty. The dependent variable, "RETURN", was analyzed in the context of its relationship with various independent variables, such as customers' experiences (Reliability), their expectations (Responsiveness and Empathy), and other factors that might influence their decision to continue using a company's services or products.

The results indicate a strong correlation between customer satisfaction and their propensity to return (Table 5), with a correlation coefficient of 0.778**, suggesting that higher levels of satisfaction significantly increase the likelihood of customer loyalty. The correlation between price perception and loyalty is 0.700**, highlighting that price adequacy also plays a role in customer purchasing behaviors. The quality of products or services, with a correlation of 0.730**, is another factor influencing return decisions, showing that customers value quality and often base their loyalty decisions on it.

Table 5. The matrix of correlations

		Willingness to return	Satisfaction	Assessment of the quality/price ratio	Quality	Expectations: Credibility and certainty	Expectations: Responsiveness and empathy	Experiences: Reliability	Experiences: Materiality
Willingness to return	Pearson correlation	1							
	Materiality (two-sided)								
	N	122							
Satisfaction	Pearson correlation	0,778**	1						
	Materiality (two-sided)	<0,001							
	N	122	122						
Assessment of the quality/price ratio	Pearson correlation	0,700**	0,831**	1					
	Materiality (two-sided)	<0,001	<0,001						
	N	122	122	122					
Quality	Pearson correlation	0,730**	0,868**	0,843**	1				
	Materiality (two-sided)	<0,001	<0,001	<0,001					
	N	122	122	122	122				
Expectations: Credibility and certainty	Pearson correlation	0,274**	0,267**	0,249**	0,284**	1			
	Materiality (two-sided)	0,002	0,003	0,006	0,002				
	N	122	122	122	122	122			
Expectations: Responsiveness and empathy	Pearson correlation	0,357**	0,290**	0,289**	0,332**	0,839**	1		
Experiences: Reliability	Pearson correlation	0,524**	0,648**	0,651**	0,725**	0,404**	0,424**	1	
Experiences: Materiality	Pearson correlation	0,519**	0,633**	0,602**	0,635**	0,294**	0,449**	0,695**	1

Correlation analysis for expectations showed moderate values, where Expectations: Reliability and Assurance obtained a coefficient of 0.274**, and Expectations: Responsiveness and Empathy – 0.357**. These results suggest that although expectations influence customer loyalty, they are not as strongly correlated as other variables. In the context of customer experiences, both Experiences: Reliability and Experiences: Tangibility

showed strong correlations (0.524** and 0.519** respectively), indicating that positive experiences are key determinants of loyalty.



Figure 1. Research model of variables

- H1 - Experience (Reliability) has a positive impact on perceived quality.
- H2 - Expectations (Responsiveness and Empathy) have a positive impact on perceived quality.
- H3 - Quality has a positive impact on Satisfaction.
- H4 - Satisfaction positively influences Return.
- H5 - Price Quality Ratio has a positive impact on Satisfaction.

The linear regression analysis focuses on identifying factors that influence customers' propensity to return, which is a key indicator of customer loyalty (Figure 1). The dependent variable, "RETURN" is analyzed in the context of its relationship with various independent variables, such as customers' experiences (Reliability), their expectations (Responsiveness and Empathy), and other factors that may influence their decision to continue using a company's services or products.

The results of the regression model indicate a statistically significant relationship between customers' experiences and their propensity to return, emphasizing the value of positive interactions in the loyalty-building process. The model showed that the Experience (Reliability) variable significantly impacts the "Return" variable, indicating that better customer experiences are strongly linked with their greater propensity to choose the company again. Conversely, the Expectations (Responsiveness and Empathy) variable, related to customer expectations, has a weaker impact on the "Return" variable.

Linear regression analysis on the impact of customer satisfaction (Satisfaction) on their propensity to return (Return) revealed a statistically significant relationship between these variables. The regression model, focusing solely on the "Satisfaction" variable as a predictor, achieved an R-squared value of 0.605, meaning that customer satisfaction explains 60.5% of the variance in their propensity to return. This is a relatively high value, underscoring the significant role of satisfaction in customer loyalty.

Linear regression analysis regarding the impact of price evaluation ("Price Quality Ratio") and quality (Quality) on customer satisfaction (Satisfaction) showed strong statistical relationships between these variables. According to the results, the regression model reached an R-squared value of 0.788, meaning that the variables PRICEQUAL and QUALITY explain

78.8% of the variance of the dependent variable SATISF. A high F-statistic value of 220619 with a significance level below 0.001 indicates a highly significant statistical model.

Each predictor individually also demonstrated a significant impact on customer satisfaction. The regression coefficient for Quality was 0.544 with a standard error of 0.074, and for “Price Quality Ratio” was 0.327 with a standard error of 0.075.

The Experience variable: Reliability proved to be highly significant in the model, with a regression coefficient of 0.680 and high statistical significance ($p < 0.001$), indicating that positive customer experiences significantly contribute to perceived quality.

Customer expectations, represented by the variable Expectations: Responsiveness and Empathy, had a less significant impact on quality. The variable had a slight negative impact with a coefficient value of -0.024 and $p = 0.887$ (Figure 2).



Figure 2. Research model of variables

H1 - Experience (Reliability) has a positive impact on perceived quality. This hypothesis is confirmed. The regression coefficient for Experience (Reliability) relative to the quality variable is 0.680, and the statistical significance of this coefficient is below 0.001, indicating a strong and statistically significant positive impact.

H2 - Expectations (Responsiveness and Empathy) have a positive impact on perceived quality. This hypothesis is not confirmed. The regression coefficient for Expectations (Responsiveness and Empathy) relative to the quality variable is -0.024, and the statistical significance of this coefficient is $p = 0.887$, indicating that there is no statistically significant impact of Expectations (Responsiveness and Empathy) on perceived quality.

H3 - Quality shows a positive impact on Satisfaction. This hypothesis is confirmed. The regression coefficient for quality relative to the Satisfaction variable is 0.544, and the statistical significance of this coefficient is less than 0.001, indicating a strong and statistically significant positive impact of quality on Satisfaction.

H4 - Satisfaction positively influences Return. This hypothesis is confirmed. The regression coefficient for Satisfaction relative to the Return variable is 0.855, and the statistical significance of this coefficient is less than 0.0001, indicating a very strong and statistically significant positive impact of Satisfaction on the propensity to Return.

H5 - Price Quality Ratio has a positive impact on Satisfaction. This hypothesis is confirmed. The regression coefficient for Price Quality Ratio relative to the Satisfaction variable is 0.327, and the statistical significance of this coefficient is less than 0.001, also

indicating a strong and statistically significant positive impact of the price quality ratio on Satisfaction.

4. RESULTS AND DISCUSSION

The interpretation of the results from the presented study indicates that the reliability of cleaning services, defined as timeliness, accuracy, and compliance of the services performed with the promises of a given company, is the main factor determining customers' propensity to reuse these services. In the context of factor analysis, reliability emerged as the dominant dimension influencing customers' perception of service quality. These values were particularly strongly correlated with customer loyalty, meaning that customers who experience a high level of reliability are much more likely to choose the same cleaning company again.

Correlation and regression analysis further confirmed that reliability is a strong predictor of customer satisfaction, which directly translates into their purchasing decisions. Thus, companies that consistently provide services with a high level of reliability can expect greater customer retention and increased loyalty.

The results of the study have significant implications for the cleaning service industry, offering strategic guidance for companies aiming to optimize their operations and increase competitiveness. The key factor that emerged as decisive for customer loyalty is service reliability. Reliability, understood as timeliness, accuracy, and compliance with previously established promises, is directly linked to the level of customer satisfaction and their propensity to re-choose a given service provider. Consequently, cleaning companies should implement rigorous quality control procedures and invest in employee training that focuses on time management and precision in executing orders (Brombacher et al., 2004).

At the same time, effective management of communication with customers before, during, and after the cleaning service can significantly impact the perception of the company as reliable and professional. Introducing clear communication channels that allow customers to track progress and be promptly informed about any changes or delays is crucial for building trust and customer satisfaction.

It is also important to systematically collect and analyze customer feedback, which allows for continuous assessment of satisfaction and identification of areas needing improvement. Such an approach enables services to be tailored to the current needs of customers and informs strategic management decisions regarding the long-term development of the company (Yang, 2010).

The use of modern technologies, such as mobile apps, task management software, or advanced monitoring systems, can further contribute to increasing operational efficiency. Integrating these tools not only streamlines the execution of orders but also enhances the quality of services provided by minimizing errors and delays. (Quinn & Baily, 1994)

The study concerning the impact of cleaning service reliability on customers' propensity to reuse these services, although providing valuable insights, also has several limitations that may affect the generalization of results. One of the main limitations is the relatively small sample size. The sample size limits the ability to extrapolate results to a broader population of cleaning service customers, which may affect the representativeness and credibility of the findings.

Additionally, the demographic composition of the study participants may not reflect the full spectrum of customers using cleaning services. These limitations concern age, gender, and geographic diversity, which may influence differences in expectations and experiences related to the quality of cleaning services.

Specific measurement tools used in the study may also not have fully captured all aspects of reliability as a factor influencing customer loyalty. It is possible that there are additional, unidentified factors that may also be significant, which were not included in the study.

It should also be noted that the study was based on respondents' self-assessment of their experiences and satisfaction with services, which can introduce measurement errors related to the subjectivity of responses. The subjective nature of the data may result in biases stemming from individual expectations and assessment standards, which may affect the objectivity of the results.

Given these limitations, caution is advised in interpreting the results and the necessity of conducting further research on a larger and more diverse sample, using improved measurement methods, to better understand the impact of cleaning service reliability on customer loyalty. Additional research may also focus on exploring other potential mediators and moderators influencing the relationship between reliability and customer satisfaction.

To expand knowledge about the reliability of cleaning services and its impact on customer loyalty, several directions for future research are suggested. First, it is important to conduct studies on a more diverse and numerous sample of respondents. This would allow for more representative results and increase the credibility of conclusions, enabling a more precise analysis of the impact of reliability on decisions of customers in this service sector.

Additionally, it is recommended to conduct studies among individuals who have not previously used cleaning services. Analyzing the reasons why consumers refrain from using these services could provide valuable insights into entry barriers for potential customers. Understanding these factors could help cleaning companies develop marketing and operational strategies that address these barriers, attracting a new group of customers.

Also, it is advisable to use more advanced research methods that allow for a deeper understanding of the mechanisms of reliability's impact on customer satisfaction. It is possible that additional variables, such as value perception or brand trust, mediate this process. Research exploring these mediating variables could provide significant clues on how to optimize processes in cleaning service companies to maximize customer satisfaction.

5. CONCLUSION

The conclusions drawn from the conducted study indicate that the reliability of cleaning services, defined as timeliness, accuracy, and compliance with promises, is a fundamental factor determining customers' propensity to reuse offered services. The analyses carried out showed that a high level of reliability contributes to increased customer satisfaction and builds their loyalty to the company. These findings have direct implications for operational practices and quality management strategies in the cleaning services industry, suggesting that focusing on improving reliability can significantly impact the market success of companies.

At the same time, this study highlights the importance of clear communication with customers and the need to implement systems for collecting and analyzing customer feedback, which can support continuous improvement of processes and services. Technological support in managing and executing cleaning services also appears to be crucial for effectively meeting customer expectations and increasing their overall satisfaction.

Limitations of the study, such as the small sample size and demographic limitations of the participants, indicate the need for further research using a larger and more representative sample. This will make it possible to obtain more reliable and generalizable results, which

will allow for a better understanding of the dynamics and factors influencing consumer behavior in the cleaning services industry.

In summary, the study provides significant insights for the theory of service quality management and management practices in the cleaning industry, emphasizing the role of reliability as a key element in increasing customer satisfaction and loyalty. These results indicate the necessity of further investigation into this topic, including a wider range of factors affecting the perception of quality in cleaning services.

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FACTORS INFLUENCING EMPLOYEE MOTIVATION

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Abstract: This seminar paper explores various aspects of employee motivation using Company X in the manufacturing sector as a case study, with a specific focus on operations in Bor and Majdanpek. Over a period of two months, detailed examinations were conducted on employees from these two locations. The aim of the research was to identify key factors influencing employee motivation in Company X, as well as to understand their significance and impact on productivity and employee satisfaction. The research sample included employees from different sectors of the company, including production, management, logistics, and support. The research methodology consisted of a combination of quantitative and qualitative data collection methods. Survey questionnaires were distributed among employees to gather quantitative information about their attitudes, expectations, and level of motivation. Concurrently, focus group interviews were conducted to explore the qualitative dimensions of motivation and the factors that influence it more deeply. The research results indicate that financial incentives, opportunities for advancement, work environment, teamwork, and recognition of success are key factors of employee motivation in Company X. Some specific differences between Bor and Majdanpek were also identified regarding the prioritization of motivational factors. This paper has significant implications for managers and leadership in Company X and similar organizations in the manufacturing sector. By understanding the aspects of employee motivation, managers can implement appropriate strategies to increase motivation, improve the work environment, and achieve better results within the company.

Keywords: motivational factors, employees, research, manufacturing, Bor, Majdanpek.

1. INTRODUCTION

In today's business world, employee motivation is a key factor in achieving high levels of productivity, success, and competitiveness for organizations. Motivated employees are more likely to perform their jobs in a quality manner, engage in their work, and often take initiative to solve organizational problems.

Therefore, it is extremely important for organizations to recognize the factors that influence employee motivation and adjust their employee management policies and practices to keep them motivated.

The aim of this seminar paper is to explore the factors influencing employee motivation in organizations. The paper will focus on the theoretical framework of employee

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motivation, the differences between intrinsic and extrinsic motivation, as well as factors influencing employee motivation such as wages and benefits, working conditions, organizational culture, relationships with colleagues and superiors, career advancement opportunities, and work autonomy.

Through a detailed analysis of these factors, the goal is to emphasize the importance of managing employee motivation in organizations and to provide guidelines and recommendations for improving employee management policies and practices to maintain high levels of motivation.

2. ANALYSIS OF EMPLOYEE MOTIVATION FACTORS IN COMPANY X

Employee motivation is one of the key factors for the success of a company. When we talk about motivation, we mean the internal force that drives individuals to work and achieve certain goals. Managing employee motivation is a process that involves understanding the factors that influence motivation, identifying the needs of employees, and adapting the work environment to increase productivity and employee satisfaction.

There are several factors that influence motivation at work, which can typically be categorized into several categories. These include: financial factors (e.g., wages, bonuses, benefits), factors related to the work environment (e.g., company culture, relationships with colleagues, working conditions), job-related factors (e.g., challenging and interesting tasks), advancement opportunities (e.g., career development, training), and recognition for work (e.g., praise, rewards, recognition).

Motivated employees are usually more productive, satisfied with their work, and less prone to turnover, and they also have a higher level of commitment to their organization.

However, unmotivated employees are typically less productive, disengaged from their work, and prone to leaving the company. It is important to motivate employees because it increases the efficiency of the company and reduces the costs of workforce turnover. If employee demotivation arises, the company should consider several factors that may affect it, such as working conditions, company culture, advancement opportunities, job tasks, wages, and benefits. If these needs are not met, motivation may decrease, leading to employee turnover.

There are companies that do not see the importance of employee motivation and do not invest in improving working conditions, wages, benefits, and advancement opportunities. Such companies usually have poor business results, low productivity, and a high level of workforce turnover.

2.1. Motivation Theories

When studying employee motivation, it is inevitable to mention motivation theories that explain how certain needs influence human motivation and thus help employers understand the psychology of their employees.

Motivation theories are conceptual frameworks that explain why people exhibit certain forms of behavior and what drives them to achieve goals or satisfy their needs. These theories study the factors and mechanisms that influence individual motivation, as well as ways in which motivation can be increased or maintained.

There are several significant motivation theories, and here are some of them: Maslow's Hierarchy of Needs Theory: This theory argues that people have hierarchically arranged needs, including physiological needs, safety needs, social needs, esteem needs, and self-actualization needs. Maslow first introduced this theory in 1943.

Expectancy Theory by Victor Vroom: According to this theory, motivation depends on the expectation that an individual's effort will lead to the desired outcome and the value that person places on that outcome. Vroom developed this theory in his work „Work and Motivation“ in 1964.

Self-Determination Theory by Edward Deci and Richard Ryan: This theory emphasizes the importance of autonomy, competence, and relatedness in motivation. According to Deci and Ryan, people are motivated when they have a sense of control over their actions, feel competent in performing tasks, and feel connected to others. Deci and Ryan presented this theory in their works, such as the article „The 'what' and 'why' of goal pursuits: Human needs and the self-determination of behavior“ from 2000.

Expectancy-Value Theory by Allan Fisher: This theory combines elements of expectancy and value in explaining motivation. Fisher developed this theory in his book „Theories of Motivation: Content, Process, and Choice“ in 2010.

2.2. Intrinsic and Extrinsic Motivation

Intrinsic motivation refers to motivation that comes from internal factors, such as personal interests, enjoyment, or the need for achievement. When a person is intrinsically motivated, they enjoy the process of performing a task and derive satisfaction from the act of doing it. External rewards or motivation are not necessary to accomplish something. This type of motivation often results in greater engagement, creativity, and long-term commitment.

Extrinsic motivation refers to motivation that comes from external factors, such as rewards, recognition, or avoiding punishment. A person who is extrinsically motivated may perform tasks to fulfill goals that are not necessarily related to their personal interests or satisfaction. In this case, motivation comes from outside the activity itself.

3. SURVEY DATA

3.1. Research Objective

The ultimate goal of this research is to help this company more effectively manage employee motivation by identifying their most important needs and providing further improvement of the company's operations, as well as by identifying specific measures to improve motivation in the workplace.

3.2. Methodology

In this research on employee motivation factors, we focus on a large manufacturing company that employs over 5000 workers at two locations in Serbia. Given the size and complexity of this company, it is important to understand the factors that influence employee motivation and to identify the most effective ways to improve motivation and worker productivity.

To explore these factors, we conducted research through surveys among employees in the company and collected data. In order to obtain relevant data, the research was conducted at different levels and among different groups of employees, including management, experts from various fields, as well as production workers.

By combining quantitative and qualitative methods of analysis, we gained deeper insights into the factors influencing employee motivation in this company.

3.3. Research Results Sample

3.3.1. Demographic Characteristics of Respondents

Based on the data obtained through surveys, it was concluded that 50 employees participated in the research, of which 47.2% were male, and the remaining 52.8% were female.

Among the surveyed participants, the largest number of respondents were between the ages of 18 and 24.

According to the data from the conducted research, the highest level of education completed by employees is as follows: 2.1% elementary school, 58.3% high school, 22.9% undergraduate studies, 14.6% master's studies, 2.1% doctoral studies. The average length of employment for employees is 9.85 years. The above is shown in Table 1.

Table 1. Demographic Characteristics

Questions and answers		
Sex	Female	52,8 %
	Male	47,2%
Age	18 - 24	35,7%
	25 - 34	14,3%
	35 - 44	23,2%
	45 - 54	19,6%
	55 - 64	7,1%
	65 i više	0%
Education	Elementary school	2,1%
	High school	58,3%
	Undergraduate studies	22,9%
	Master studies	14,6%
	Doctoral studies	2,1%
Employment length in years	0 - 10	32 people
	11 - 20	3 people
	21 - 30	9 people
	31 - 40	5 people
	<i>7 people remain unspecified</i>	

3.3.2. Motivational Factors

The results obtained in further research indicate that the greatest motivational factor for employees is the financial factor (Figure 1), which accounts for as much as 51.8%. Additionally, 26.8% of respondents emphasized the importance of personal development and career growth, while 17.9% emphasized the importance of the work atmosphere.

Finally, only 3.5% of respondents chose working on challenging projects as their most important factor. In addition to motivational factors, respondents also highlighted the benefits of work, such as the fact that it alleviates depression, makes people feel more productive, fulfilled, and purposeful. Respondents also emphasize that they are motivated by personal enthusiasm and the new acquaintances they make at work.

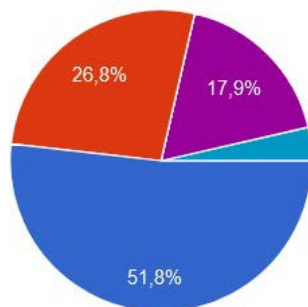


Figure 1. Motivational factors

3.3.3. Employees' Ratings for Support from Management

In the Figure 2, we can see the ratings given by employees for the support they receive from management. A rating of 1 represents a complete absence of support, while a rating of 5 represents an extremely high level of support. The results show that a small portion of respondents, 8.9%, rate the support from their management as completely lacking in executing their job tasks, while the majority of respondents, 63.2%, rate that they have at least some level of support from management.

The highest percentage of respondents, 30.4%, rate that they have an extremely high level of support, while 26.8% rated that they have a good level of support, and 21.4% that they have an average level of support. Only 12.5% of respondents rated that they have a low level of support from management.

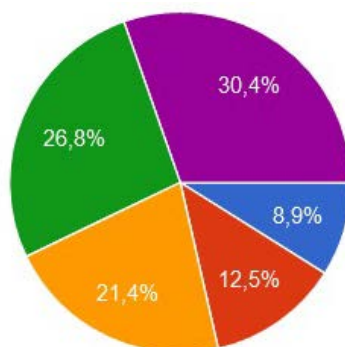


Figure 2. Employee Motivation

According to the obtained results (Figure 3), 21.4% of employees described their motivation as very high, while 39.3% described their motivation as mostly high. 19.6% of employees described their motivation as partially high, while 12.5% described their motivation as low. Only 7.1% of employees described their motivation as completely absent.

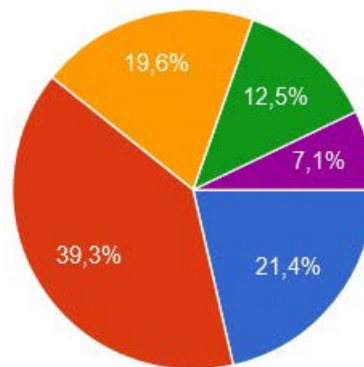


Figure 3. Rewards that Motivate Employees

According to these results (Figure 4), the majority of employees, 66.1%, cited a salary raise as the reward that most motivates them for successfully completing tasks at work. A day off was mentioned as the most motivational factor by 21.4% of respondents, while 12.5% of respondents listed „other“ citing praise and bonuses as the most motivating factor.

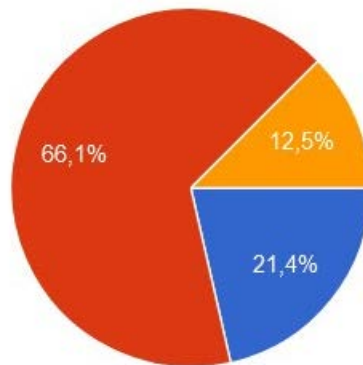


Figure 4. Feedback Evaluation

The survey showed that the largest number of respondents, 37.2%, receive regular feedback from their superiors about their work. However, 27.3% of respondents almost never receive feedback about their work, while the same percentage of respondents, 27.3%, occasionally receive feedback. Additionally, 12.5% of respondents rarely receive feedback.

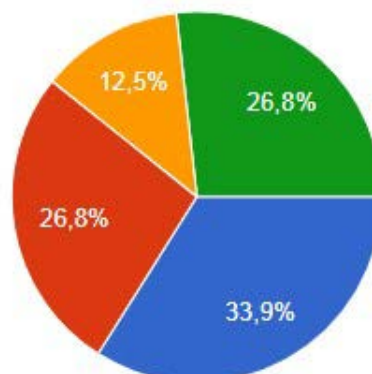


Figure 5. Satisfaction with salary

According to respondents' answers (Figure 6), less than one-fifth of respondents (16.1%) believe that their salary corresponds to the efforts they put into their work. However,

more than two-thirds of respondents (83.9%) feel that their salary does not adequately match their efforts. More than a third of respondents (39.3%) believe that their salary could be significantly higher, while almost half of the respondents (44.6%) think that their salary matches the efforts they put in, but could be slightly higher.

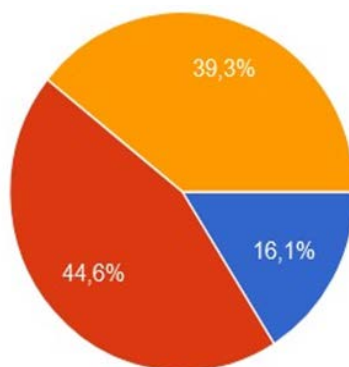


Figure 6. Salary depends on the efforts

3.4. Analysis of Results

Based on all of this data, it can be concluded that the results of the survey among employees are somewhat varied. While the majority of employees feel generally motivated and seek career growth and development, there are also those who are less motivated or not motivated at all. Additionally, there is a certain number of employees who feel they do not receive enough support and feedback from their superiors.

One of the key findings of this study is that the majority of employees feel that their salary does not correspond to the efforts they put into their work, which could negatively impact their motivation and job satisfaction. Therefore, employers should consider ways to ensure that employee salaries are in line with market conditions and the level of engagement and contribution from employees.

On the other hand, employees have shown interest in developing their careers, which employers could leverage to motivate and retain employees. Additionally, most employees are motivated by salary raises, while additional praise and bonuses could also be useful for maintaining motivation and engagement.

Overall, employers should take these findings into account and try to find ways to motivate their employees and ensure they are satisfied with their work and level of compensation.

4. CONCLUSION

It can be concluded that employers need to make efforts to improve employee motivation and job satisfaction. It is necessary to ensure that employees receive adequate support from their superiors, as well as regular and constructive feedback about their work. It is also important to provide employees with opportunities for career development, as well as adequate compensation for their work.

Additionally, employers should consider ways to motivate employees, including praise, bonuses, additional benefits, and other types of rewards. All of this could lead to increased employee satisfaction and improved performance in the workplace.

Finally, it is important to emphasize that employers should monitor and analyze feedback from employees in order to continuously improve their practices and processes, with the aim of creating a better work environment and maintaining productivity and engagement of employees.

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EFFECTIVENESS OF ELEARNING INITIATIVES AND IMPROVED ACADEMIC PERFORMANCE AMONG NIGERIAN STUDENTS IN TERTIARY INSTITUTIONS

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Abstract: The aim of the study is to investigate the influence of technological factors, such as internet connectivity on students' ability to benefit from eLearning. Access to technology and reliable internet connectivity can be a major barrier, especially for students from low-income backgrounds and remote areas. Technical issues, such as platform issues or compatibility issues with various devices, can also disrupt student learning experience. The study adopted correlational survey design and questionnaire as instrument for data collection. The total population of the study comprised of Federal University of Technology Owerri and Imo State University, Owerri. The total population of the study comprised of 2 200 students. The sample size was determined statistically using Taro Yamane formula and calculated as 339. The sample size was determined using Taro Yamane formula and calculated as 264. The hypothesis was tested and analysed using Pearson correlation. The test result showed the value of correlation coefficient of, $r = 0.943$, $N = 339$, and $P = 0.000$. Findings showed that internet connectivity positively contribute to students learning in higher institutions. The study recommends university administrators to identify potential barriers that affect successful eLearning adoption and provide solutions to enhance students learning ability.

Keywords: electronic initiatives, internet connectivity, students learning ability and academic performance.

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CAN PRIVATE HEALTH INSURANCE BUY HAPPINESS? EVIDENCE FROM ROMANIAN PEOPLE

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Abstract: Romania is one of the developing European countries in which the field of private insurance is still not exploited to its potential. Our study examines the predictors influencing the level of Romanian happiness. Using a sample of 385 individuals and a logit model we evaluate the impact of private health insurance, level of income and knowledge, along with the other control variables, on the level of well-being. Our empirical findings reveal that people who have private health insurance are generally happier compared to those who do not have insurance. Also, income and level of knowledge play an important role.

Keywords: happiness, health insurance, healthy life, life satisfaction.

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EVOLUTION OF THE FINANCIAL PERFORMANCES OF ROMANIAN TOURISM COMPANIES

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Abstract: The analysis of the evolution of the financial performance of any economic entity is essential for the optimal understanding of financial health, allowing both the identification of essential trends and the factors influencing the company, as well as the making of strategic and informed decisions for its future. This study aims to evaluate this complex notion, on a sample of 21 companies from the hotel and restaurant industry, according to the CAEN code, listed on the Bucharest Stock Exchange, having as a starting point the financial statements available for the period 2020-2022. With the help of the analytical-diagnostic methodology, we will finally be able to issue pertinent value judgments, also taking into account the fact that during the analyzed period, the Romanian tourism industry was to a very large extent affected by the outbreak of the Covid-19 pandemic, as well as the war on the borders of our country, and thus we will be able to ascertain in what way the financial condition of the companies in question was influenced.

Keywords: performance, hotel, restaurant, sector, Romania.

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THE IMPACT OF INNOVATIVE TECHNOLOGIES ON THE WORK OF ORGANIZATIONS IN THE FIELD OF ARTS

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Abstract: This research paper aims to explore the role of technological innovations in artistic organizations in Serbia. Artistic organizations face various challenges in today's digital environment. The research focuses on optimizing processes, efficiency, and sustainability of artistic organizations. The importance of technological innovations for improving business operations and expanding audience reach is emphasized. The goal is to further examine the role of technological innovations in the Serbian artistic sector and identify the most effective ways to implement them. A methodological framework is planned to be developed for identifying relevant decision-making factors using the Fuzzy-Delphi method. The research will analyze the impact of technological innovations on the efficiency and long-term sustainability of artistic organizations, with a focus on the application of digital platforms, artificial intelligence, and blockchain technology. Through the analysis of expert opinions, particularly through the Fuzzy-Delphi method, the research will enable a better understanding of the impact of technological innovations on the artistic sector and identify key success factors.

Keywords: art, technological innovations, artistic organizations, fuzzy-Delphi method.

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