

Insights into Domain Names and Product Categories of e-Commerce Websites: A Case Study of the UAE

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Overview

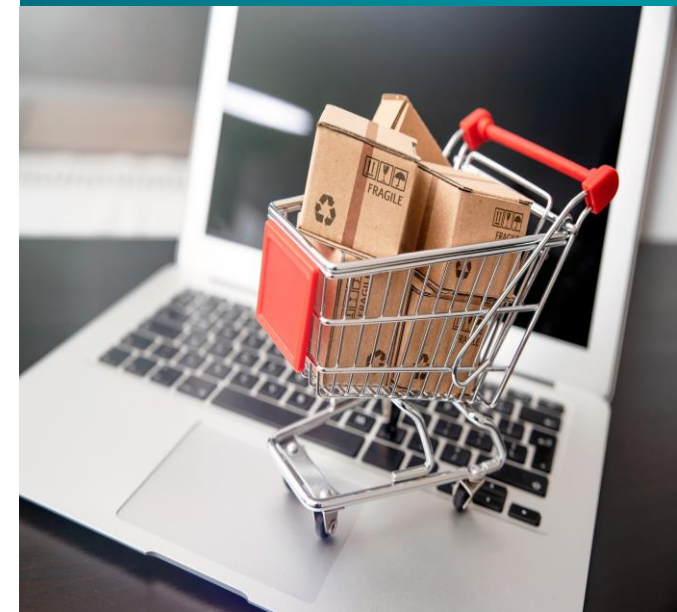
- Introduction
- Problem statement
- Data
- Methodology
- Results
- Conclusion
- Contributions
- Future work





Introduction

- In 2020, the **e-commerce** retail sector, accounting for **18% of global retail sales** and is expected to represent approximately **22% of global retail sales by 2024**.
- In 2022, the **disparity** in growth **between e-commerce and traditional retail** was minimal, with only a marginal difference of **0.2%**, highlighting consumers' strong inclination towards online shopping
- The **global e-commerce** market is **expected to reach** a total value **\$5.56 trillion by 2027**





Introduction

- Across the **Middle East and North Africa (MENA)** region, **91% of consumers make online purchases**, and 70% prefer digital payment methods
- The e-commerce sector in the **Middle East** is expected to achieve a **market volume of US\$50 billion by 2025**.
- Previous studies have highlighted the **growth** potential and dynamics of e-commerce in the **UAE**, emphasizing the importance of understanding the underlying factors that contribute to the success of online platforms
- **UAE** is positioned as the **27th largest e-commerce market in the world** and is anticipated to generate revenue of approximately US\$10,205.5 million by the year 2023





Problem Statement

- **Objective:** Conduct a comprehensive analysis of the **top 10,000 e-commerce websites operating in the UAE**, examining aspects such as **domain-naming patterns and product categories**.
- To the best of our knowledge, the present study is the **first of its kind**, by presenting a **methodology and sample country-specific analysis**.
- Can guide **two critical strategic planning problems** that **every e-commerce start-up across the globe faces**:

- What should be our domain name?
- Which product categories should we offer?





Source Data



gurdalertek@gmail.com

LTD Individual



Columns



Download ▾



Save Search



Load Search

Page

1



1

2

3

4

5



1 to 100 of 12,189,881 leads

Basic Filters



Platform



Shop Category



United Arab Emirates (AE) ✓

✕ United Arab Emirates (AE)



State



Advanced Filters



Remove Filters

Search

(0.09 sec) 1 of 1,000 searches. 0 of 100 downloads. Limit resets in 23:49 hrs

2024 © P

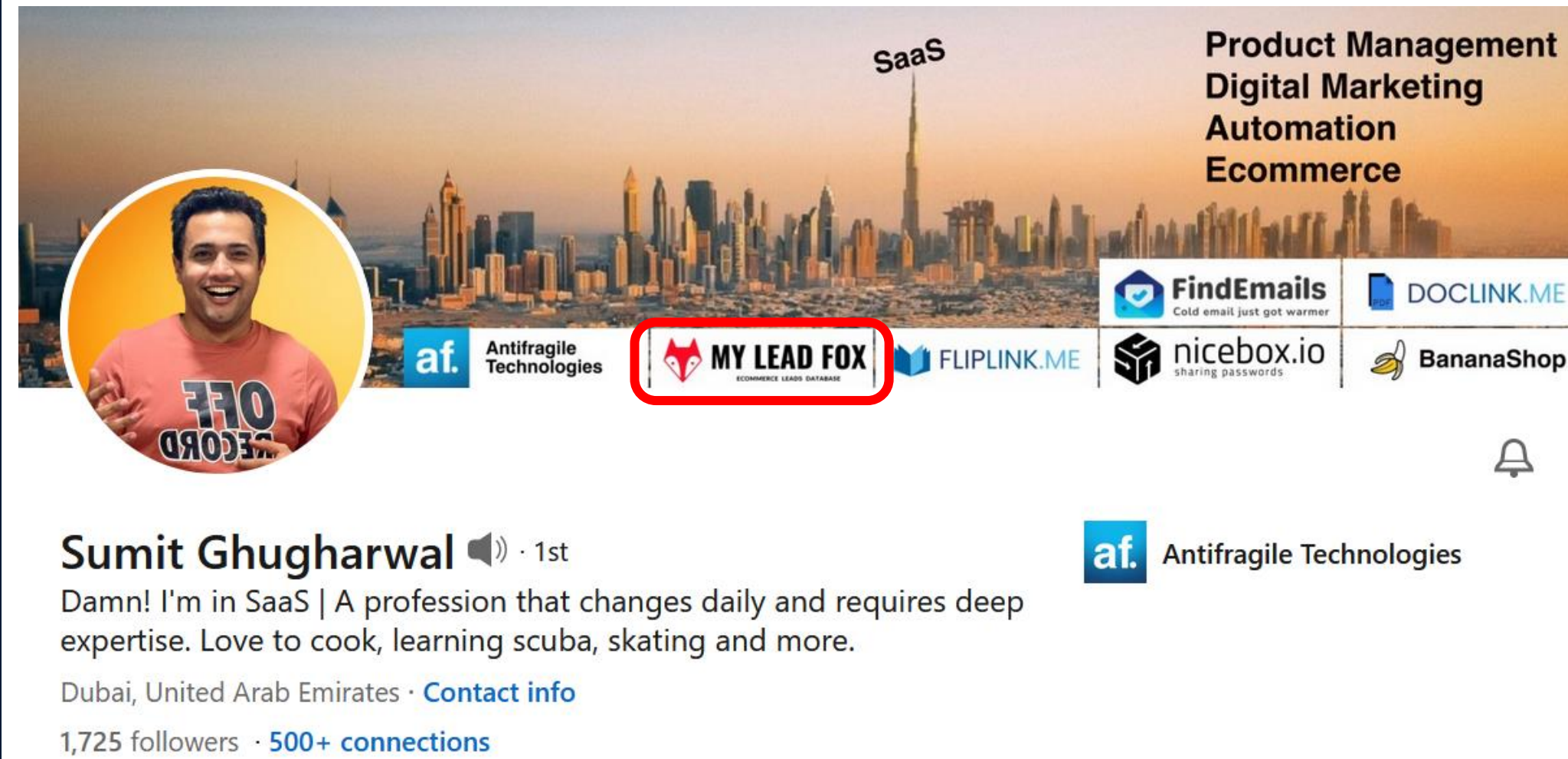
Need Help? Chat and more...

#	Website	Name	Description	Shop Category	Emails
1	additudemag.com	ADDitude	Is your ADHD teen being held back	/Science/Biological Sciences/Ne	
2	guess.com	GUESS	Customers can enjoy complimer	/Apparel/Women's Clothing,/App	customercare@gu
3	zalando.de	ZALANDO	Auf Zalando kannst du online Sch	/Apparel/Footwear	
4	jossandmain.com	Joss & Main	At Joss & Main, shop your signatu	/Beauty & Fitness/Face & Body C	
5	ripleys.com	Ripley Entertainment	From Ripley's Believe It or Not! mu		pr@ripleys.com,so
6	hydroflask.com	Hydro Flask	Let's go on any adventure with Hy	/Food & Drink/Beverages,/Home	
7	purple.com	Purple	In 80 years, Purple has brought th	/Home & Garden/Bed & Bath	info@purple.com,r
8	glamour.mx	Glamour	En GLAMOUR MÉXICO, podrás enc		
9	loewe.com	Loewe	Discover the Loewe online store c	/Apparel	customerservice@
10	talbots.com	Talbots	Talbots provides a variety of wor	/Apparel/Women's Clothing	customer.service@
11	pinklily.com	Pink Lily	Looking to enhance your fashion	/Apparel/Women's Clothing	info@pinklily.com
12	chloe.com	Chloé PH	Shop now and discover the lates	/Apparel	
13	goop.com	goop	Doctors provide cutting-edge we	/Apparel	personalshopping,
14	theblaze.com	TheBlaze	The Blaze provides conservative		support@blazetv.c



Source Data

MY LEAD FOX | Dubai based Data Provider | Life-Time Access to the Platform through **AppSumo**
| **Permission granted from the Founder**



The image shows a LinkedIn profile for Sumit Ghugharwal. The background banner features a Dubai skyline with the Burj Khalifa and the text 'SaaS' above it. On the right side of the banner, the following services are listed: Product Management, Digital Marketing, Automation, and Ecommerce. Below the banner is a row of logos for various tools: af. Antifragile Technologies, MY LEAD FOX (highlighted with a red box), FLIPLINK.ME, FindEmails, DOCLINK.ME, nicebox.io, and BananaShop. The profile picture shows a man in a red shirt with 'OFF RECORD' text. The profile name is Sumit Ghugharwal, and he is listed as the 1st connection. His bio reads: 'Damn! I'm in SaaS | A profession that changes daily and requires deep expertise. Love to cook, learning scuba, skating and more.' His location is Dubai, United Arab Emirates, and there is a 'Contact info' link. He has 1,725 followers and 500+ connections.

Sumit Ghugharwal · 1st

Damn! I'm in SaaS | A profession that changes daily and requires deep expertise. Love to cook, learning scuba, skating and more.

Dubai, United Arab Emirates · [Contact info](#)

1,725 followers · [500+ connections](#)

af. Antifragile Technologies

Source Dataset A & Derived Datasets B ... G

A1								
ID								
	A	B	C	D	E	F	G	H
1	ID	domain	categories	city	state	estimated_monthly_sales	products	platform
2	1009	www.luluhypermarket.com	Food_Drink Food Mass_Merchants_D			1,738,960.24	212020	SAP_Commerce_Cloud
3	4277	squatwolf.com	Beauty_Fitness Fitness	Fujairah	Fujairah	423,867.06	1846	Shopify
4	5534	www.rpgstash.com	Games Games Roleplaying_Games	Dubai	Dubai	1,826,370.34	723	PrestaShop
5	6291	www.etisalat.ae	Consumer_Electronics Mobile_Wirel			3,087,340.46	2931	Custom_Cart
6	6913	www.damasjewellery.com	Apparel Clothing_Accessories	Dubai	Dubai	312,140.87	461	Magento
7	7419	www.dragonmart.ae		Dubai	Dubai	989,049.78	54300	nopCommerce
8	8847	parfums-de-marly.com	Beauty_Fitness Face_Body_Care Perf	Dubai	Dubai	3,163,688.91	85	Shopify
9	9274	www.lifepharmacy.com	Health Pharmacy Drugs_Medications			824,962.76	3035	Magento
10	9676	www.sephora.ae	Beauty_Fitness Face_Body_Care Mak			1,042,316.14	877	Salesforce_Commerce_Cloud
11	10198	www.virginmegastore.ae		Dubai	Dubai	429,007.27	10655	SAP_Commerce_Cloud
12	10785	www.yasmarinacircuit.com	Sports Motor_Sports			365,167.53	114	Custom_Cart
13	13058	istyle.ae	Internet	Dubai	Dubai	614,267.67	337	Magento
14	13302	www.fnp.ae	Gifts_Special_Events Flowers	Dubai	Dubai	307,844.05	1999	Custom_Cart
15	13348	www.maxfashion.com	Apparel			289,449.40	58805	Custom_Cart
16	13452	www.louvreabudhabi.ae	Libraries_Museums Arts_Entertainm	Abu Dhabi	Abu Dhabi	348,361.99	1762	Custom_Cart
17	13779	track24.net	Business_Industrial Mail_Package_D	Dubai	Dubai	1,553,273.71	262	WooCommerce
18	13896	www.toyota.ae	Autos_Vehicles	Dubai	Dubai	866,004.49	270	Custom_Cart
19	14605	www.amazon.ae				44,794,333,333.33	7129361	Custom_Cart
20	14690	www.toypro.com	Toys_Hobbies Building_Toys	Dubai	Dubai	1,044,207.10	14567	Custom_Cart
21	15495	www.philips.ae	Beauty_Fitness Face_Body_Care			1,490,000,000.00	26948	Custom_Cart
22	16025	www.musafir.com	Travel Air_Travel	Sharjah	Sharjah	340,478.57	1520	Custom_Cart
23	16425	bloomingdales.ae	Apparel Women's_Clothing Mass_M			361,536.54	172	Salesforce_Commerce_Cloud
24	16813	www.carrefouruae.com	Food_Drink Food Mass_Merchants_D			3,360,774.45	356873	Custom_Cart
25	18153	www.dubaidutyfree.com	Beauty_Fitness Face_Body_Care	Dubai	Dubai	1,041,250.82	24116	Oracle_CX_Commerce
26	18500	www.veritasint.com				1,025,084.48	51	WooCommerce
27	18620	4allfamily.com	Apparel	Dubai	Dubai	339,812.74	16	Shonifv

Dataset A

Dataset B

Dataset C

Dataset D

Dataset E

Dataset F

Dataset G

...

+



Methodology

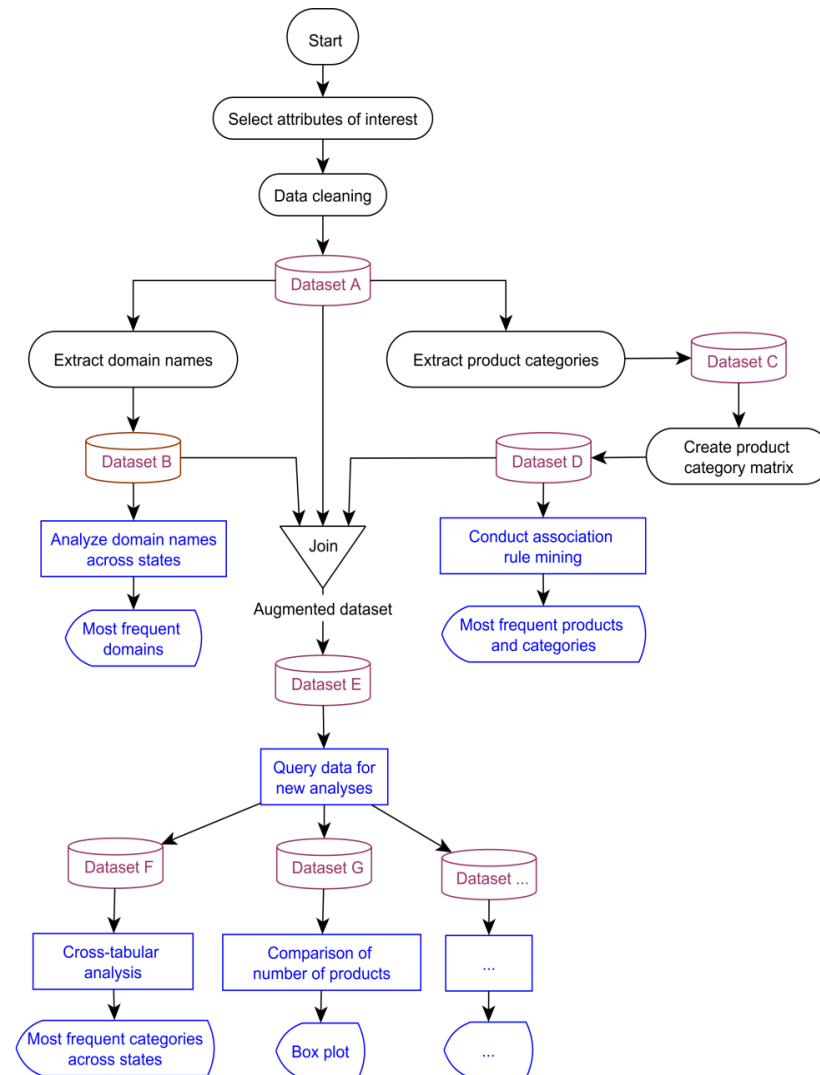
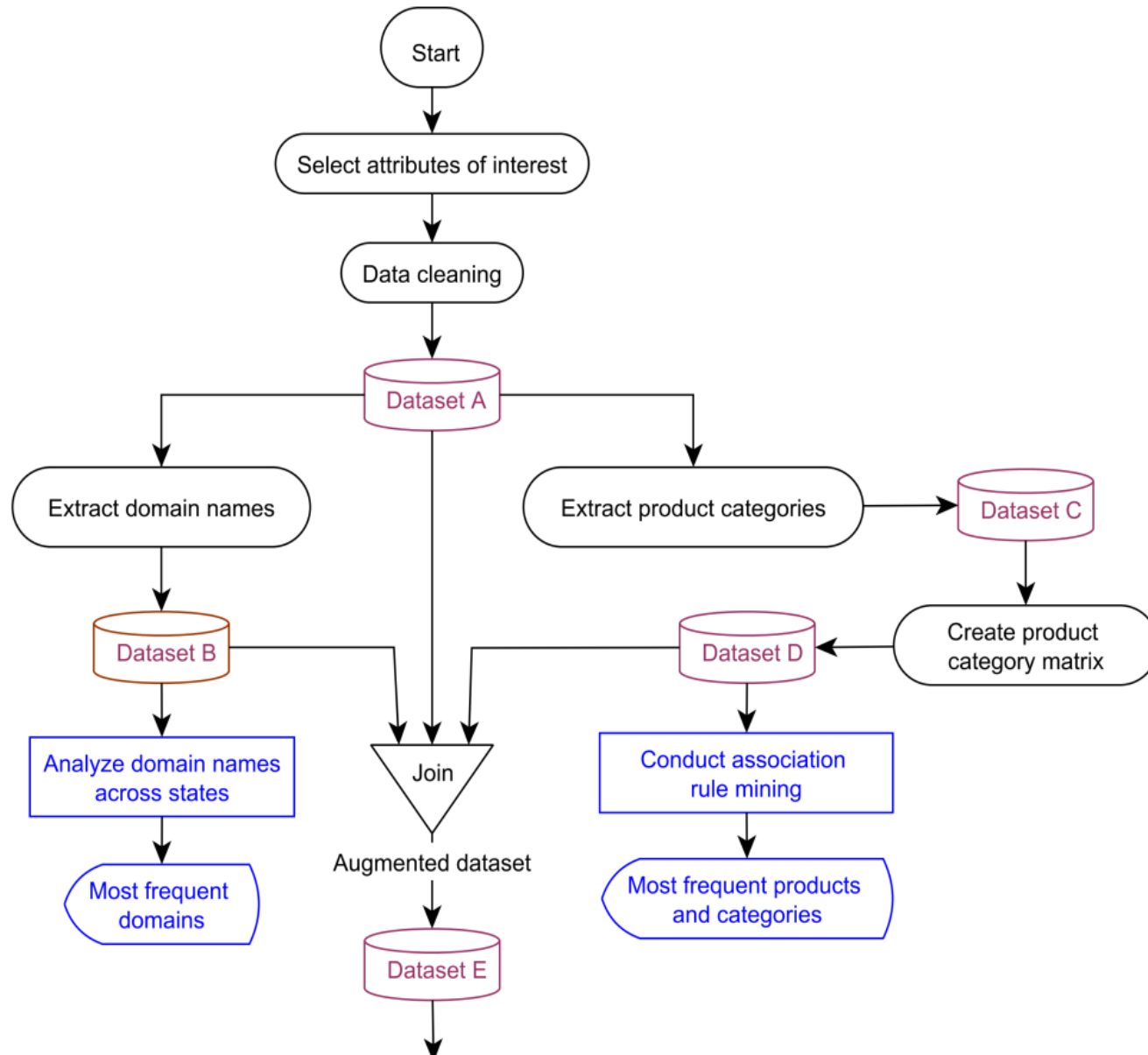


Fig. 1. Methodology flowchart showing the steps taken throughout the project.

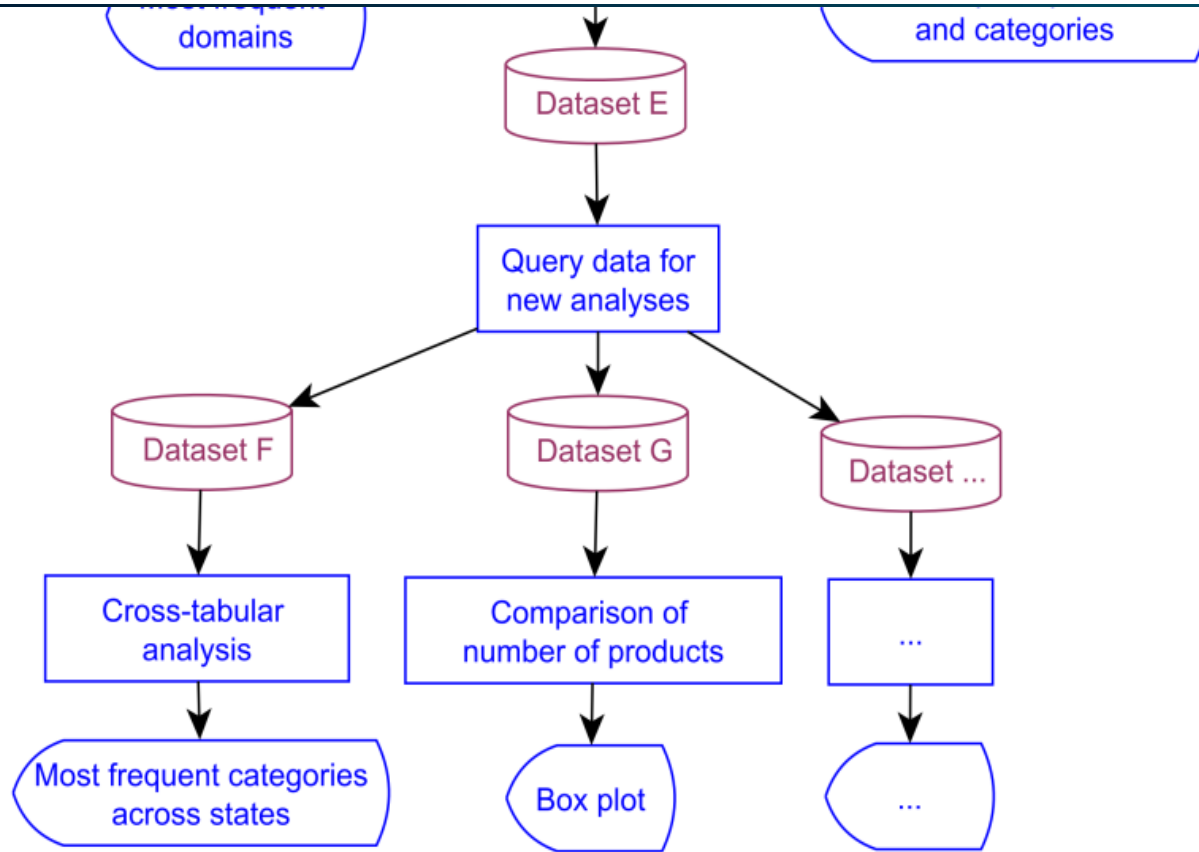


Methodology





Methodology



Dataset E

Table 1. Data attributes in **Dataset E** that were the focus of the presented research.

Name	Data Type (Role)	Sample Value	Description
ID	integer (key)	13779	Rank of the website/platform in the world
domain	string	track24.net	Domain name
NumberStringInDomainName	integer	24	If any, the number string in the domain name
NumberOfDigits	integer	2	If the domain name has numbers in it, the number of digits of that number in the domain name
NumberOfComponents	integer	2	Number of components in the domain name, excluding www
DomainType	string	net	Domain extension (type)
categories	string list	Business_Industrial Mail_Package_ Delivery	Categories, separated by space
city	string	Dubai	City where the e-commerce company is registered
state	string	Dubai	State (the UAE Emirate) where the e-commerce company is registered
estimated_monthly_sales	integer	1,553,273.71	Monthly sales estimated
products_sold	integer	262	Number of products sold in the platform
Apparel	binary	0	Whether the website includes the mentioned category (1) or not (0 or empty cell)
Home_Garden	binary	0	
Food_Drink	binary	0	
Beauty_Fitness	binary	0	
Business_Industrial	binary	1	
Face_Body_Care	binary	0	
Food	binary	0	
Health	binary	0	
Computers	binary	0	



Dataset E

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Dataset E

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Business_Industrial	binary	1	
Face_Body_Care	binary	0	
Food	binary	0	
Health	binary	0	
Computers	binary	0	

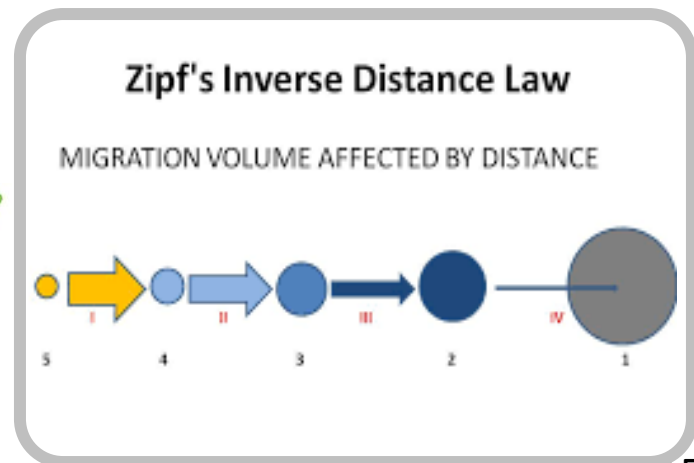
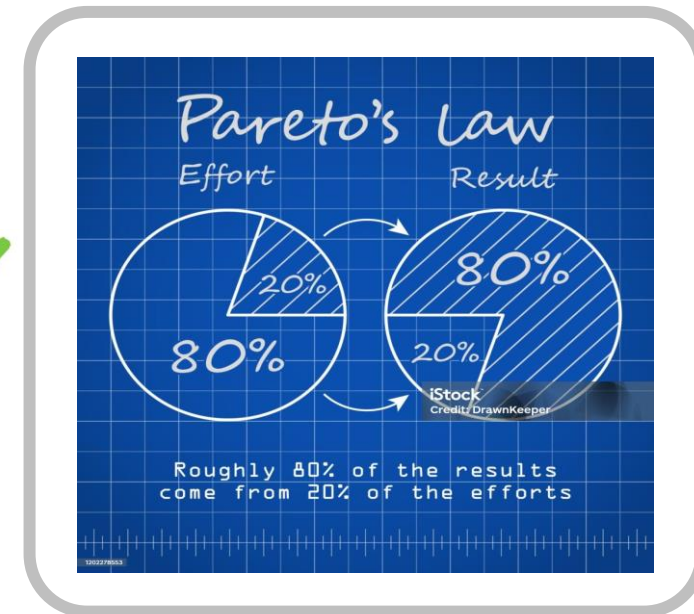


Results

• Domain Extension Distribution

Table 2. Most frequent domain types

Domain Type	Frequency	Percentage (%)	Rank
com	6176	61.76	1
ae	3118	31.18	2
net	151	1.51	3
co	114	1.14	4
me	84	0.84	5
shop	53	0.53	6
store	52	0.52	7
org	45	0.45	8
online	20	0.20	9
fr	11	0.11	10
uk	10	0.10	11





Results

• Domain Extension Distribution

State (Emirate)	com	ae	net
Abu Dhabi	59.84	29.92	2.05
Ajman	72.79	16.91	0.74
Dubai	70.25	21.21	1.48
Fujairah	72.73	13.64	0
Ras al Khaimah	77.33	13.33	2.67
Sharjah	73.12	17.05	2.89
Umm al Quawain	70.83	20.83	8.33

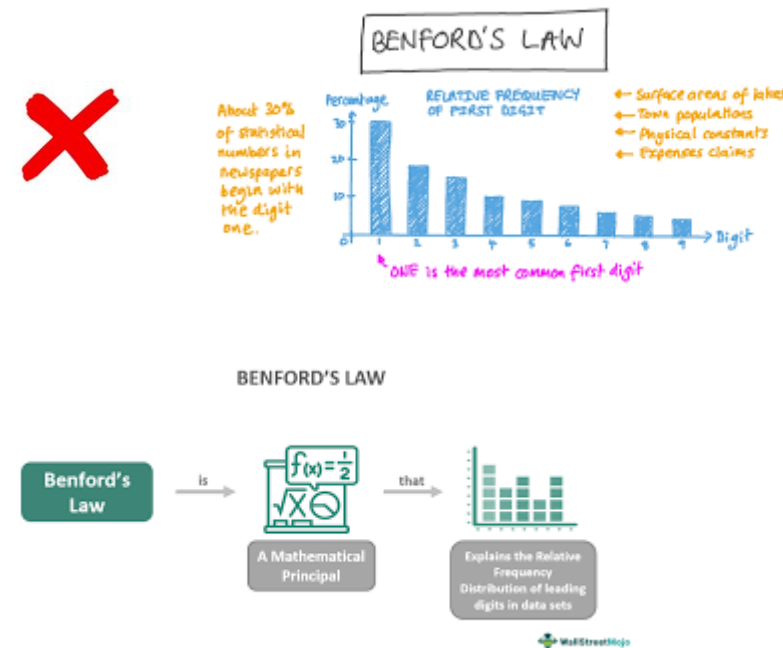
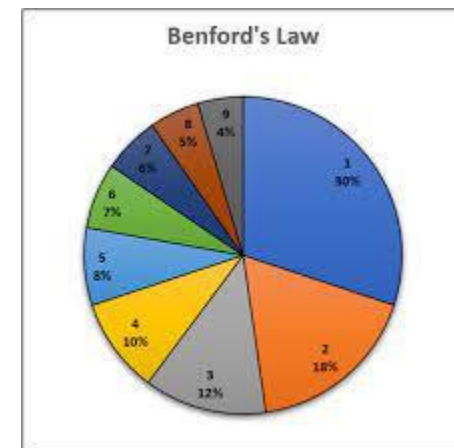
Fig. 2. Percentage of top three domain types in the seven emirates of UAE.

Results

• Numeric Strings in Domain Names

Table 3. Most frequent digits in domain names.

Number String	Frequency
4	35
2	31
3	24
1	16
7	13
360	10
8	9
800	9
24	6
9	5
11	5
247	5



**orange**
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Results

- **Frequent Product Categories**
 - Which categories are most frequently offered?
 - Which category combinations are offered together?
- Conducted with **Orange Software**

**orange**
DATA MINING**Data Mining
Fruitful and Fun**Open source machine learning and
data visualization.

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<https://orangedatamining.com>



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DATA MINING

Results

• Frequent Product Categories

Table 4. Top ten most frequent categories.

Rank	Itemsets	Support
1	Apparel=1	1533
2	Home_Garden=1	1238
3	Food_Drink=1	1057
4	Beauty_Fitness=1	1051
5	Business_Industrial=1	674
6	Face_Body_Care=1	653
7	Food=1	642
8	Health=1	444
9	Computers=1	428
10	Clothing_Accessories=1	374



Results

• Frequent Product Category Combinations

Itemsets	Support	%
Apparel=1	1533	18
Clothing_Accessories=1	374	4.392
Women's_Clothing=1	257	3.018
Footwear=1	128	1.503
Home_Garden=1	1238	14.54
Home_Furnishings=1	298	3.5
Home_Improvement=1	225	2.642
Home_Interior_Decor=1	147	1.726
Home_Appliances=1	145	1.703
Kitchen_Dining=1	101	1.186
Food_Drink=1	1057	12.41
Food=1	642	7.54
Baked_Goods_Desserts=1	110	1.292
Beverages=1	234	2.748
Coffee_Tea=1	155	1.82
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Baked_Goods_Desserts=1	110	1.292
Beauty_Fitness=1	1051	12.34
Face_Body_Care=1	653	7.669
Perfumes_Fragrances=1	235	2.76
Skin_Nail_Care=1	149	1.75
Make-Up_Cosmetics=1	142	1.668
Perfumes_Fragrances=1	235	2.76
Skin_Nail_Care=1	149	1.75
Make-Up_Cosmetics=1	142	1.668
Hair_Care=1	141	1.656
Fitness=1	126	1.48
Business_Industrial=1	674	7.915
Business_Services=1	284	3.335
Office_Supplies=1	128	1.503
Office_Supplies=1	128	1.503
Face_Body_Care=1	653	7.669
Perfumes_Fragrances=1	235	2.76
Skin_Nail_Care=1	149	1.75
Make-Up_Cosmetics=1	142	1.668
Food=1	642	7.54
Baked_Goods_Desserts=1	110	1.292
Health=1	444	5.214
Nutrition=1	151	1.773
Vitamins_Supplements=1	90	1.057
Vitamins_Supplements=1	90	1.057
Computers=1	428	5.026
Computer_Hardware=1	152	1.785
Clothing_Accessories=1	374	4.392

Itemsets	Support	%
Apparel=1	1533	18
Clothing_Accessories=1	374	4.392
Women's_Clothing=1	257	3.018
Footwear=1	128	1.503
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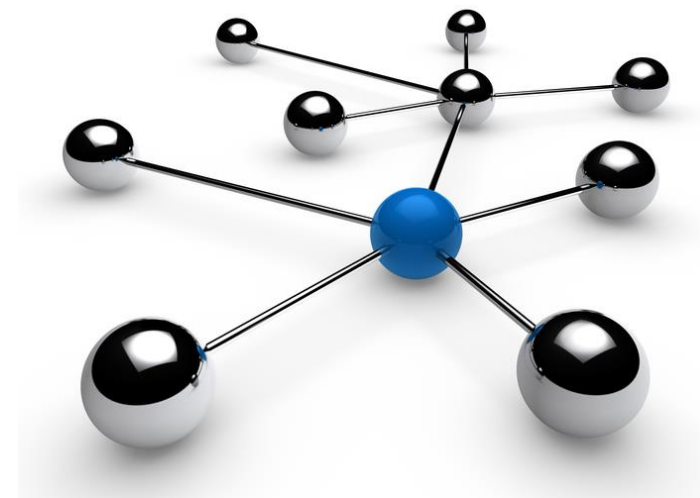


Fig. 3. Expanded view of the most frequent categories and category combinations



Results

• Frequent Product Categories Across Emirates (States)



State (Emirate)	Apparel	Beauty_Fitness	Business_Industrial	Computers	Food_Drink	Health	Home_Garden
Abu Dhabi	32.51	20.49	8.13	4.24	10.60	8.13	15.90
Ajman	23.53	24.71	9.41	4.71	8.24	4.71	24.71
Dubai	31.00	17.81	7.93	6.11	10.85	7.11	19.19
Fujairah	31.03	34.48	3.45	3.45	13.79	6.90	6.90
Ras al Khaimah	25.00	25.00	10.42	2.08	10.42	6.25	20.83
Sharjah	25.45	18.64	14.09	4.09	7.27	4.09	26.36
Umm al Quawain	21.43	28.57	7.14	7.14	7.14	0.00	28.57

Fig. 4. Percentage of categories across states.



Results

• Number of products sold on e-commerce websites vs. product categories



Fig. 5. Distribution of number of products sold, in relation to product categories



Conclusion



- The findings reveal **key patterns and relationships** that can empower businesses to make data-driven **decisions about branding, product offerings, and marketing strategies** tailored to consumer preferences.
- For instance, the prevalence of '.com' and '.ae' domains point to an opportunity for international and localized branding approaches.
- The high frequency of apparel and home products guides strategic prioritization of offerings and inventory planning.
- Meanwhile, insights into sub-categories and recurring itemsets provide a granular view of demand patterns to inform targeted promotions.



Contributions

- This study equips businesses with **pivotal insights** to gain a competitive edge.
- The study also establishes a methodological **blueprint for similar analytical projects** in any e-commerce market, inspiring more evidence-based research on e-commerce.
- Can guide **two critical strategic planning problems** that **every e-commerce start-up across the globe faces**:
 - What should be our domain name?
 - Which product categories should we offer?





Future Work

- First, **augmenting the dataset with additional parameters**, such as pricing, ratings, and reviews, can reveal crucial factors influencing purchase conversions
- Second, a **comparative analysis** across e-commerce platforms and demographics can highlight the preferences of diverse consumer segments
- Moreover, **integrating temporal variables** can uncover seasonal and event-based spikes, guiding inventory and delivery management to better satisfy customers and increase retention and sales.



Supplement

- 10 pages
- Detailed Literature Review
- Additional Data Analysis
- 35+ References
- All Datasets A...G
- Orange Model (*.ows)
- <https://ertekprojects.com/ftp/supp/20.zip>

Supplement to “Insights into Domain Names and Product Categories of e-Commerce Websites: A Case Study of the UAE”

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201207945@uaeu.ac.ae, gurdal@uaeu.ac.ae

Abstract. Understanding e-commerce markets and online consumer behavior is critical for e-commerce retailers in the United Arab Emirates (UAE) and across the world. This study conducted a comprehensive analysis of unique e-commerce data to reveal patterns in domain names, product categories, and associations with other attributes. Using data analytics techniques, the initial dataset was cleaned and augmented to conduct the analysis. Key findings reveal ‘.com’ and ‘.ae’ as dominant domain extensions, numeric patterns in domain names, and ‘apparel’ as the most prevalent product category. An in-depth association mining analysis identifies and lists frequent categories and category combinations. This study provides actionable insights into the naming and category planning of e-commerce retailers in the UAE. Multidimensional analysis establishes an analysis and planning framework for evidence-based e-commerce research that can guide the two critical strategic decisions of domain name and category selection, which are among the important strategic decisions when an e-commerce business is first established. Most importantly, while providing insights for UAE e-commerce markets specifically, the methodology can be applied to any country or region.

Keywords: E-commerce, UAE, Online Shopping, Association Mining, Domain Names, Product categories.



Thank You! Any Question?

Thank You



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