Lucerne University of
Applied Sciences and Arts

HOCHSCHULE LUZERN

Technik & Architektur
FH Zentralschweiz

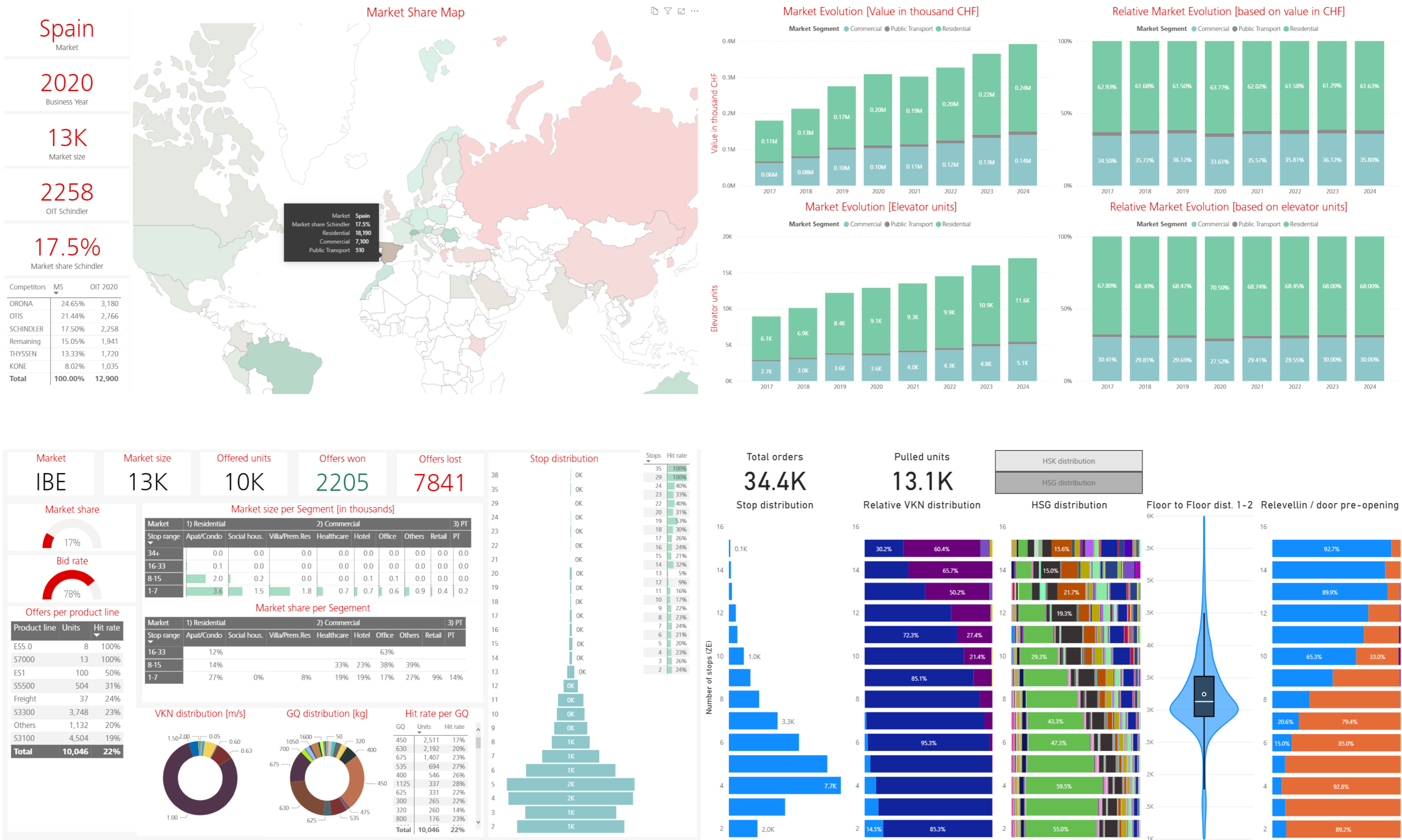MSE | MASTER OF SCIENCE IN ENGINEERING

Master-Thesis Engineering, Fachgebiet Business Engineering and Production

Improving Schindler's strategic decision-making capabilities with a digital Market Intelligence Platform

Market Share Map

Market	Spain
Market share Schindler	17.5%
Residential	18,190
Commercial	7,100
Public Transport	510

Spain — Market
2020 — Business Year
13K — Market size
2258 — OIT Schindler
17.5% — Market share Schindler

Competitors	MS	OIT 2020
ORONA	24.65%	3,180
OTIS	21.44%	2,766
SCHINDLER	17.50%	2,258
Remaining	15.05%	1,941
THYSSEN	13.33%	1,720
KONE	8.02%	1,035
Total	100.00%	12,900

Market Evolution [Value in thousand CHF] — Market Segment: Commercial, Public Transport, Residential

Relative Market Evolution [based on value in CHF]

Market Evolution [Elevator units]

Relative Market Evolution [based on elevator units]

Market	Market size	Offered units	Offers won	Offers lost
IBE	13K	10K	2205	7841

Market share 17%
Bid rate 78%

Offers per product line

Product line	Units	Hit rate
ESS.0	8	100%
S7000	13	100%
ES1	100	50%
S5500	504	31%
Freight	37	24%
S3300	3,748	23%
Others	1,132	20%
S3100	4,504	19%
Total	10,046	22%

Market size per Segment [in thousands]

Market	1) Residential			2) Commercial						3) PT
Stop range	Apat/Condo	Social hous.	Villa/Prem.Res	Healthcare	Hotel	Office	Others	Retail	PT	
34+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
16-33	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	
8-15	2.0	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.0	
1-7	3.6	1.5	1.8	0.7	0.7	0.6	0.9	0.4	0.2	

Market share per Segement

Market	1) Residential			2) Commercial						3) PT
Stop range	Apat/Condo	Social hous.	Villa/Prem.Res	Healthcare	Hotel	Office	Others	Retail	PT	
16-33	12%			63%						
8-15	14%		33%	23%	38%	39%				
1-7	27%	0%	8%	19%	16%	17%	27%	9%	14%	

VKN distribution [m/s] — 1.50, 2.00, 0.05, 0.60, 0.63, 1.00

GQ distribution [kg] — 1600, 320, 400, 700, 675, 630, 625, 535, 475

GQ	Units	Hit rate
450	2,511	17%
630	2,192	20%
675	1,407	23%
535	694	27%
400	546	26%
1125	337	28%
625	331	22%
300	265	22%
320	260	14%
800	176	23%
Total	10,046	22%

Stop distribution

Stops	Hit rate
35	100%
29	100%
24	33%
23	33%
20	31%
19	53%
17	26%
16	24%
15	37%
13	5%
12	9%
11	16%
10	17%
9	22%
8	24%
7	21%
6	21%
5	20%
4	23%
3	26%
2	24%

Total orders 34.4K
Pulled units 13.1K
HSK distribution / HSG distribution

Stop distribution · **Relative VKN distribution** · **HSG distribution** · **Floor to Floor dist. 1–2** · **Relevellin / door pre-opening**

Market intelligence, is an **essential tool** for executive leadership so that **disruption is not coming as a surprise**, either from competitors or companies that have not been in this business but also to apprehend requirements for products and services.

This project aimed to develop, test, and implement a digital market intelligence platform that can support the stakeholders in Schindler's new installation division with the market intelligence information they need, to inform their analysis and improve the quality of their decisions. This should help the company to achive faster time to market, reduction of development costs thanks to precise market requirements, improved profit margins through enhanced pricing decisions, and higher customer satisfaction thanks to products/options that better address customer needs.

A four-cycle methodology was applied to understand, build, test, and implement a market intelligence platform.
In **cycle one**, four stakeholder personas were introduced based on the interviews with different managers of Schindler's NI division. The stakeholder needs were consolidated showing the central questions. Furthermore, an analysis drill-down has been assembled introducing the different analysis dimensions. All the information collected during this circle lead to the assembly of an early prototype which built the baseline to collect further feedback in the following steps.
In **cycle two**, dashboard sketches were introduced that were designed either in co-creation with the stakeholders or prepared based on the information collected during the first cycle. The sketches were used as a baseline to develop a functional prototype that can be tested with the stakeholders. Specific analysis use cases were clarified to strengthen the understanding of the application and potential usage.

The **third cycle** introduced the feedback obtained during the testing phase of the dashboards with the stakeholders, confirming that the ideas of the prototype were generally very well received, where improvement measures included, e.g. to assemble a KPI which shows the importance of a country or zone in terms of opportunities that can be visualized.
Cycle four introduced the implemented platform with related data architecture and an implementation road-map suggesting how the company can realize the full scope. Further analysis use cases were elaborated by the example of the Spanish market, where the importance of different KPIs was explained, and, finally, further improvement measures to the implemented dashboards were defined. Some of the implemented dahsbaords are shown in the figures above. The top left shows the market overvie, the top right shows the market forcasting, the bottom left the market setmentation, and the bottom left the component dashbaord.

The implemented market intelligence platform (MIP) has opened the way for future research to improve the MIP continuously. It is suggested to further investigate into the areas of supply chain intelligence and R&D intelligence, to provide more value with the platform.

As we move into the time of system-based recommendations, another potential field for future research is to investigate how the Azure-Cloud can support Schindler's market intelligence insight with AI models.

Sebastian Egger

Coach:
Prof. Dr. Shaun West
Jim Siler

Kooperationspartner:
Schindler Aufzüge AG
Quirin Kollros
Produktmanager - NI Sales