

Closing the Competence Gap

(AKA "*Watson project*")





How do we know which competencies our students should master?

Which are getting more important,
which are diminishing or taken for granted?

Structure

- What have we done
- How far are we
- What hurdles have we meet
- What is next step

Top 10 skills

in 2020

1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordinating with Others
6. Emotional Intelligence
7. Judgment and Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility

in 2015

1. Complex Problem Solving
2. Coordinating with Others
3. People Management
4. Critical Thinking
5. Negotiation
6. Quality Control
7. Service Orientation
8. Judgment and Decision Making
9. Active Listening
10. Creativity



Sources of insights

- Educational guidance board
 - Visits to internship companies
 - Partner companies
 - Split opinions on competency needs
 - Poor or missing data/evidence
- ...
- Idea is to get better evidence of competency needs of employers of our students, through research of job-adds and business influencers.

Understanding demand?

- Ask Companies or organisations about their expectations.
- Employment statistics
- Analyze demand after new employees

Way forward

- Interviews with 25 CMO experts
- Analysis of job-adds within sales and marketing
- Analysis of structured data (XML tags)
- Analysis of unstructured data – job add text

What does experience mean?

- Come up with any phrase you can think of that illustrates some kind of experience?

- You will work with
- You have experience with
- You have studied ...
- You have heard about ...
- You are using ...
- You have knowledge about ...
- You know how to ...
- You are familiar with
- You have tried ...
- Etc.



+ 3.000 job-adds analyzed
– many more on the way!

phbusiness



Data sources

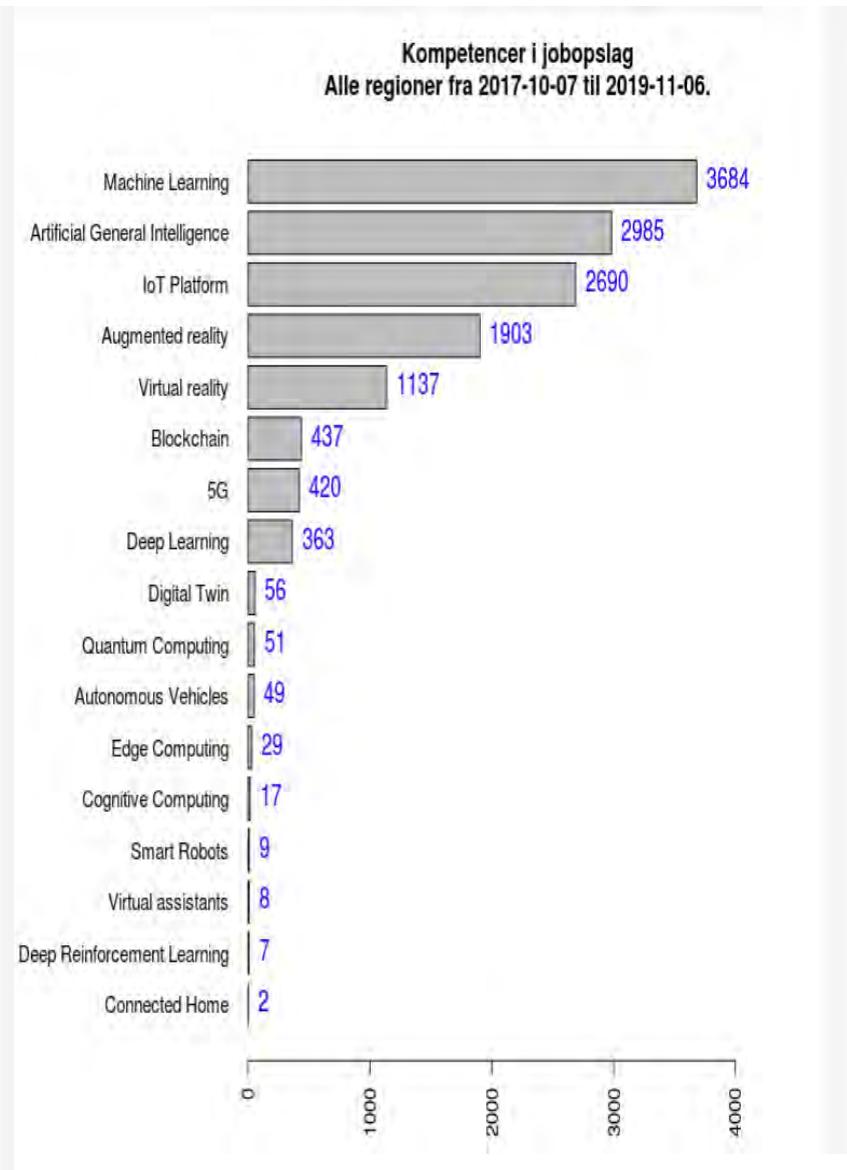
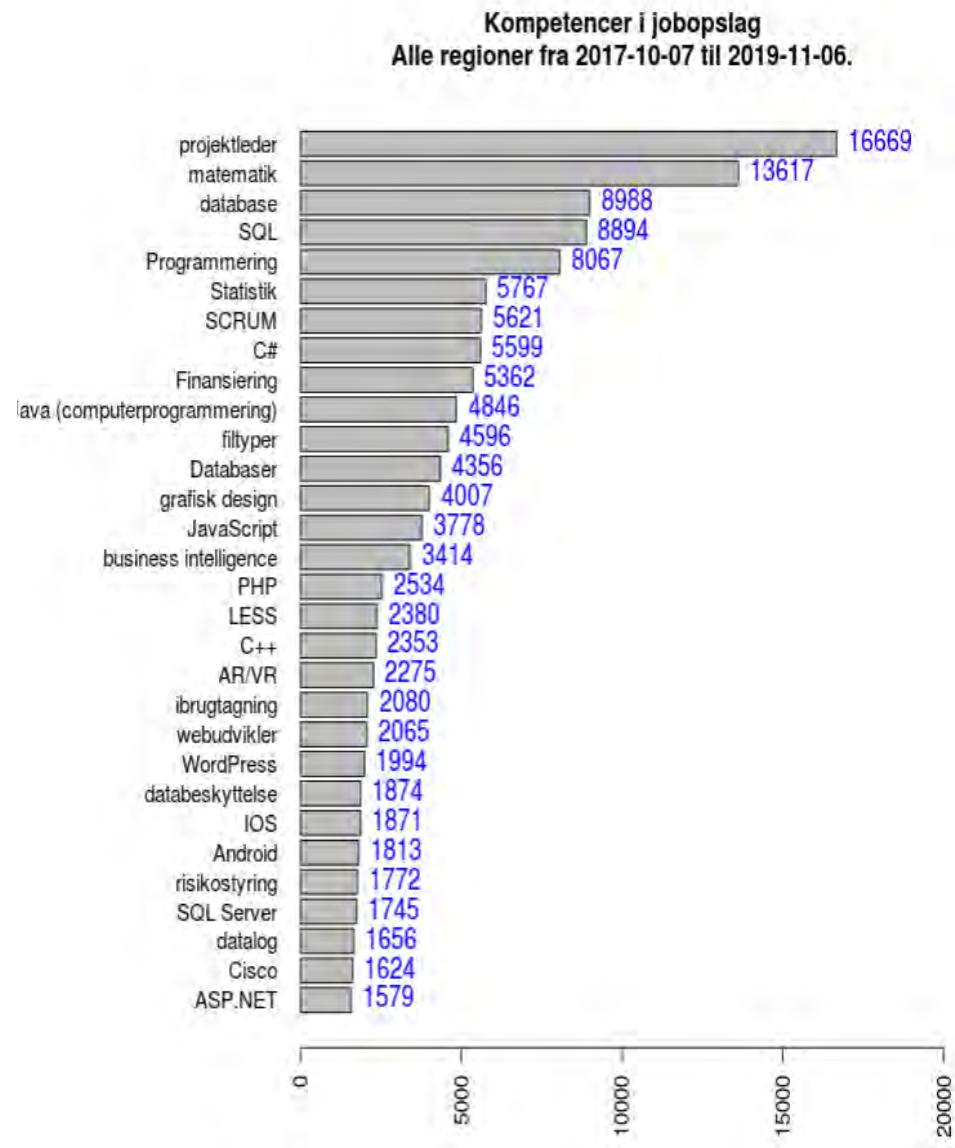
- Danish Marketing Association
- OFIR – job portal
- With various domain specific taggings
- Web Crawling any job add that have been posted since may 2018 on a daily basis (820.000+)
- Without any tagging, but improving step by step

Tools

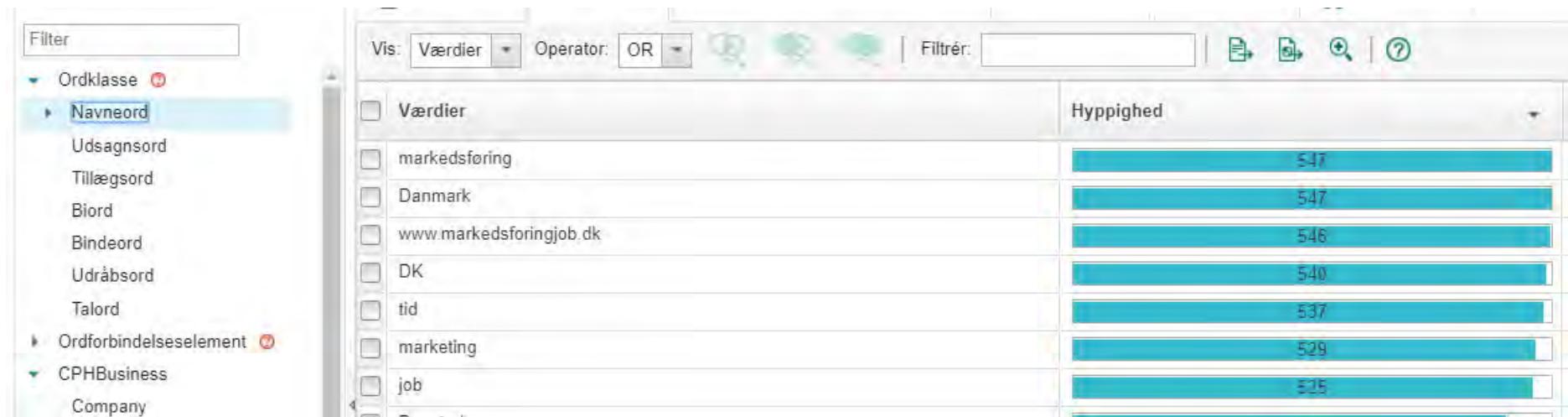
- IBM Watson
- Text analysis
- POS – Part of speech tagging
- Semantic analysis
- Natural language processing (NLP)
- Annotations
- Machine learning
- Deep learning
- AI

The 2 platforms

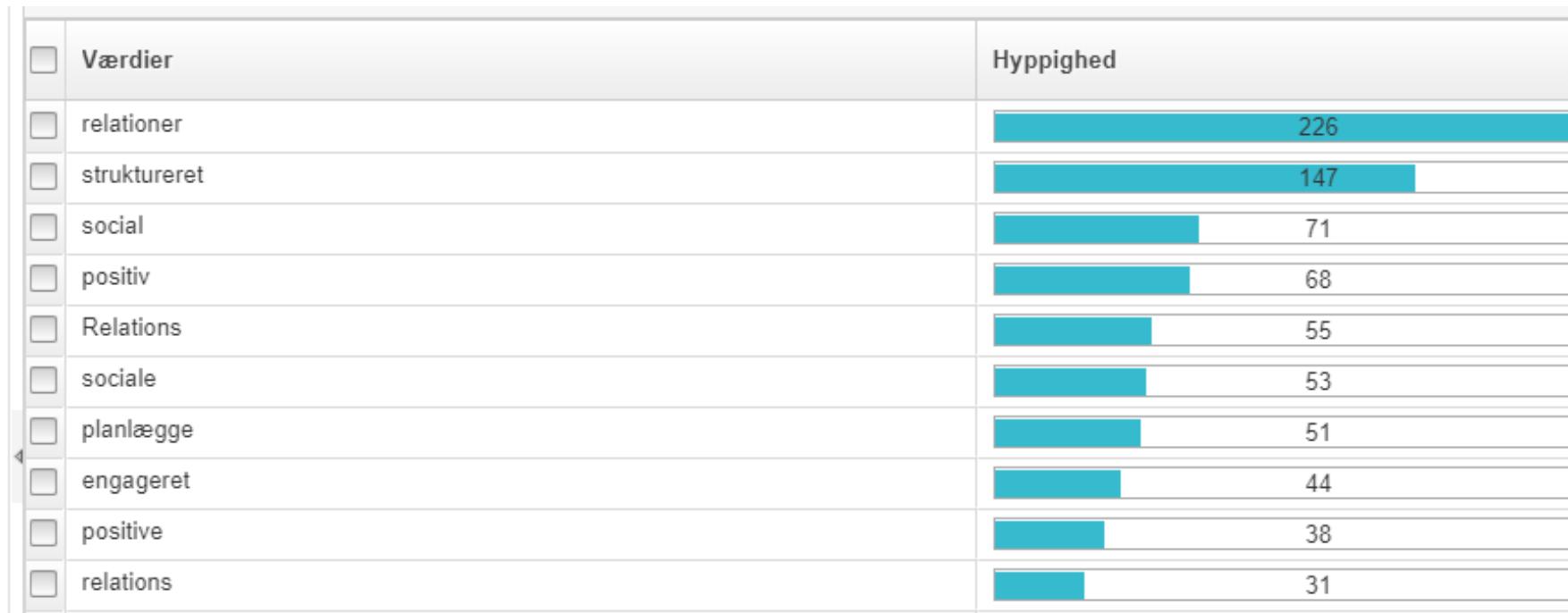
- Watson Analytics
- <http://94.18.238.22:8393/ui/analytics>
- Research Platform
- <https://forskning.eaaa.dk/>



First run with data from job adds



Refined a bit (Soft skills)

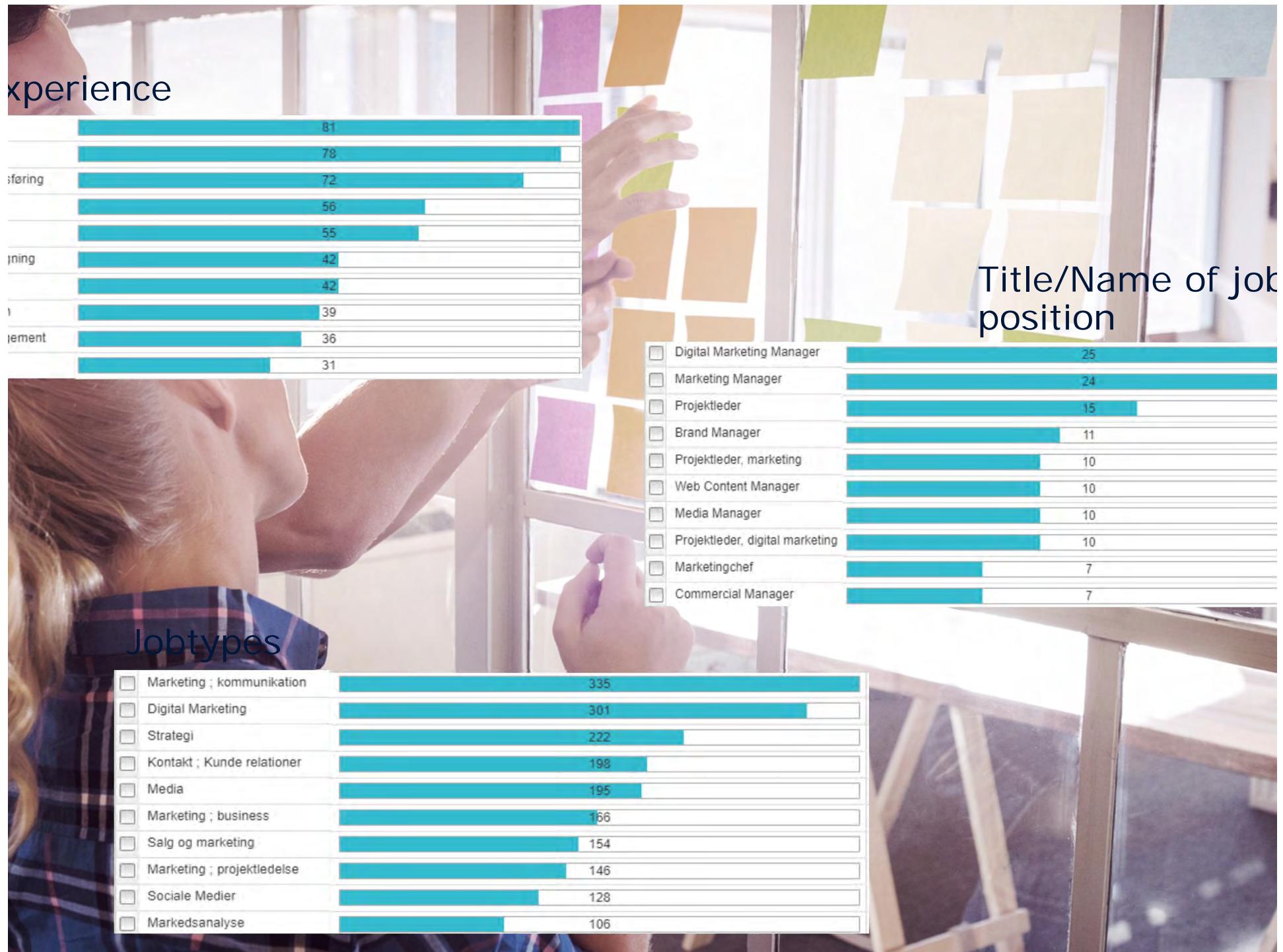


Machine learning

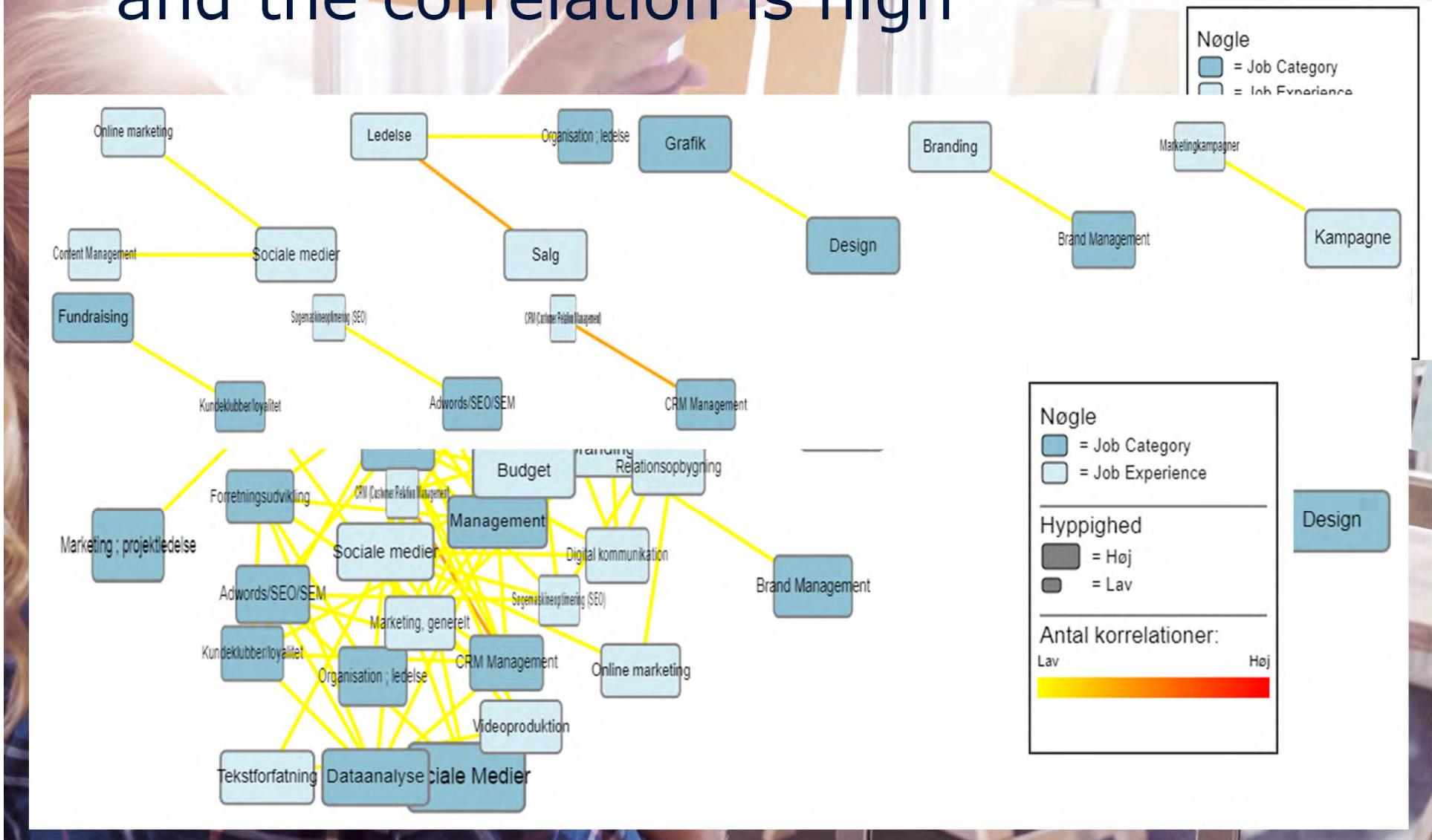
Værdier	Hyppighed
<input type="checkbox"/> Du arbejder struktureret	9
<input type="checkbox"/> Du er struktureret	8
<input type="checkbox"/> Du er nytænkle og ser muligheder i det meste	3
<input type="checkbox"/> du er struktureret	3
<input type="checkbox"/> Du er positiv	2
<input type="checkbox"/> du arbejder struktureret og kan holde mange bolde i luften	2
<input type="checkbox"/> du arbejder struktureret	2
<input type="checkbox"/> Du er iderig og nytænkle og er i stand til at bevare overblikket selv i meget hektiske perioder	1
<input type="checkbox"/> Du er iderig	1
<input type="checkbox"/> Du er engageret og viser initiativ overfor kunder og kollegaer	1
<input type="checkbox"/> Du er struktureret og god til at bevare overblikket samt formår at holde fokus på at nå dine mål	1
<input type="checkbox"/> du arbejder struktureret med sans for detaljen	1
<input type="checkbox"/> du er positiv	1

ML

- Analysing “experience”
- Analysing – marketing/business mindset without business terminology
- Text strings



301 jobs where "digital" is in the add and the correlation is high



Soft skills

From the authors' of best-seller *21st Century Skills*
CHARLES FADEL*, MAYA BIALIK, AND BERNIE TRILLING*



FOUR-DIMENSIONAL EDUCATION

THE COMPETENCIES LEARNERS NEED TO SUCCEED

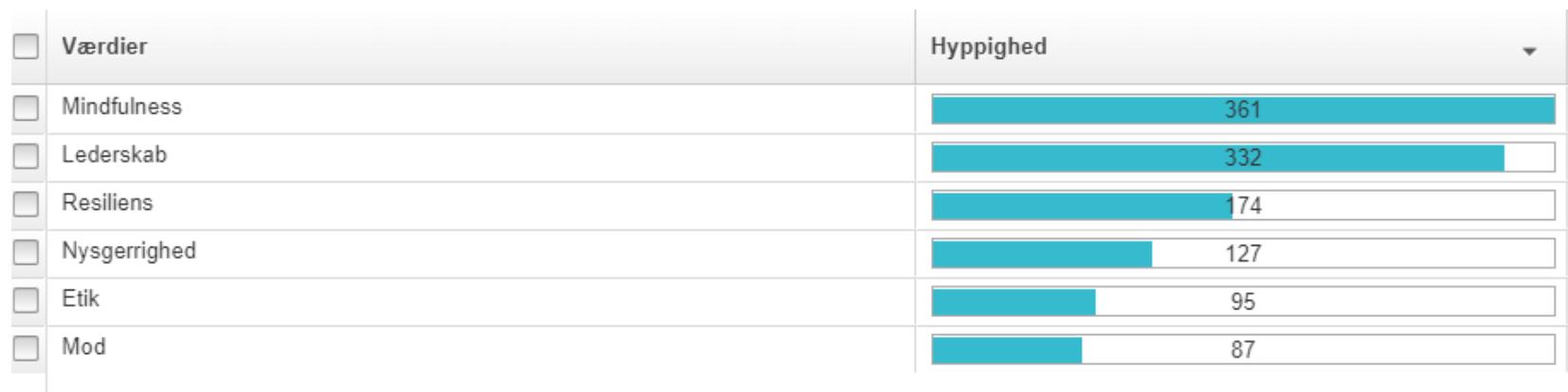
Prologue by Andreas Schleicher, OECD

"A very thoughtful treatment of the competencies our students need to thrive in today's (and tomorrow's) world. This book will help educators understand and navigate the critical choices we are facing."

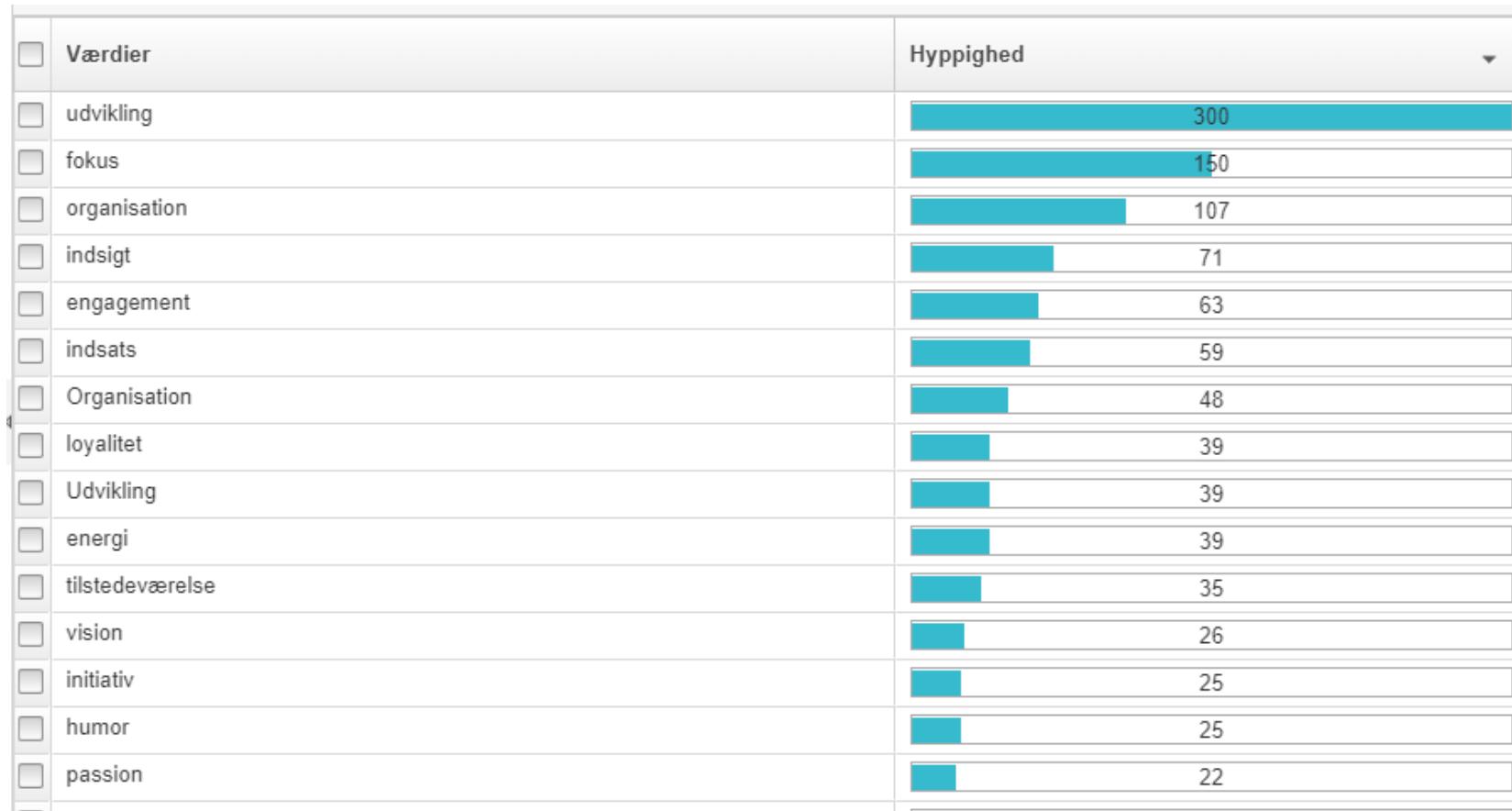
-Carol Dweck, Stanford University

Essential Qualities	Associated Qualities and Concepts (non-exhaustive)
Mindfulness	Self-awareness, self-actualization, observation, reflection, consciousness, compassion, gratitude, empathy, growth, vision, insight, equanimity, happiness, presence, authenticity, listening, sharing, interconnectedness, interdependence, oneness, acceptance, beauty, sensibility, patience, tranquility, balance, spirituality, existentiality, social awareness, cross-cultural awareness, etc.
Curiosity	Open-mindedness, exploration, passion, self-direction, motivation, initiative, innovation, enthusiasm, wonder, appreciation, spontaneity, etc.
Courage	Bravery, determination, fortitude, confidence, risk taking, persistence, toughness, zest, optimism, inspiration, energy, vigor, zeal, cheerfulness, humor, etc.
Resilience	Perseverance, grit, tenacity, resourcefulness, spunk, self-discipline, effort, diligence, commitment, self-control, self-esteem, confidence, stability, adaptability, dealing with ambiguity, flexibility, feedback, etc.
Ethics	Benevolence, humaneness, integrity, respect, justice, equity, fairness, compassion, kindness, altruism, inclusiveness, tolerance, acceptance, loyalty, honesty, truthfulness, authenticity, genuineness, trustworthiness, decency, consideration, forgiveness, virtue, love, care, helpfulness, generosity, charity, devotion, belonging, etc.
Leadership	Responsibility, abnegation, accountability, dependability, reliability, conscientiousness, selflessness, humbleness, modesty, self-reflection, inspiration, organization, delegation, mentorship, commitment, heroism, charisma, followership, engagement, leading by example, goal-orientation, focus, results orientation, precision, execution, efficiency, negotiation, consistency, socialization, diversity, decorum, etc.

Among 548 adds from DM



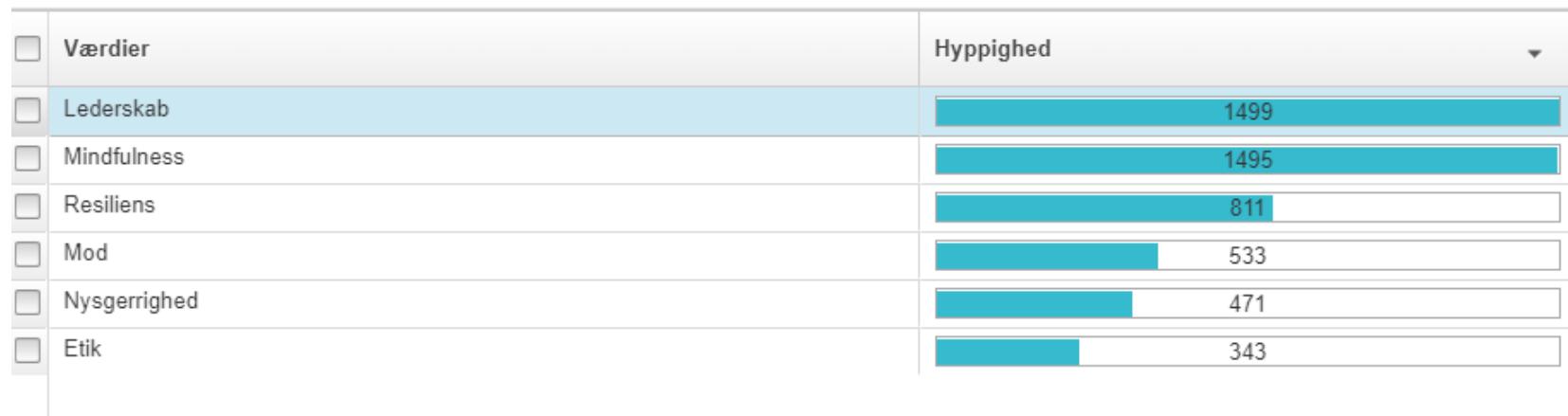
Among the 361 in the category "Mindfulness"



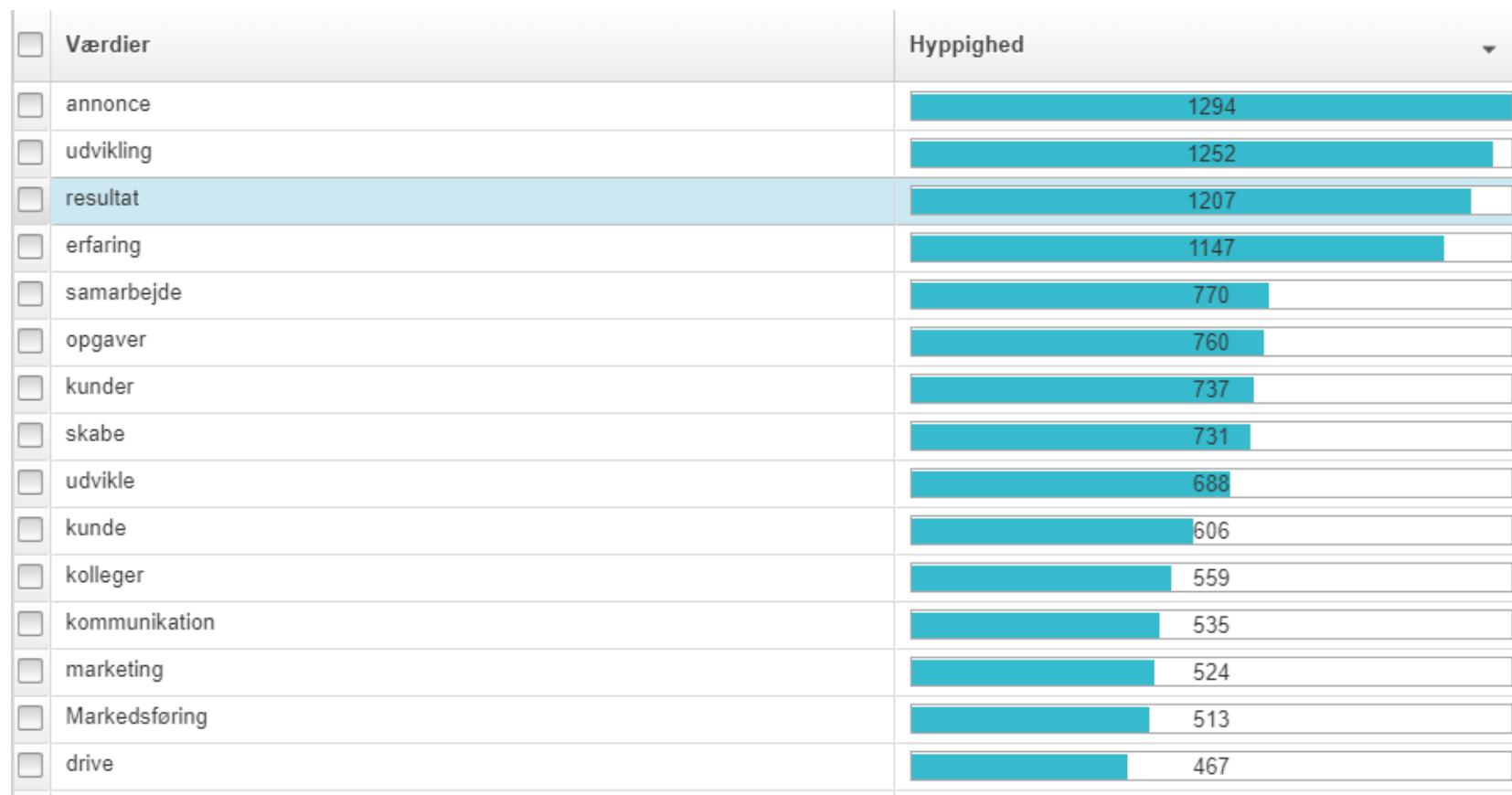
The analysis

  220.xml	05/09/2017 23.47.33	... mulighed for at få en essentiel rolle i vores marketingafdeling, hvor du får ansvaret for vores 1:1 ... , som har stor fokus på kundeoplevelsen. TELMORE Marketing: Du bliver en del af et ung og dynamisk ... at drive Koordinering, prioritering, udvikling og opfølging af 1:1 aktiviteter, som primært består ... Dette baseret på forretningsprioriter, indsigt i og segmentering af TELMOREs kunder, som gøres i ... CLM ... Du besidder stærke kommunikative evner ; ; Du er selvstændig, kreativ og initiativrig ; ; Du ... tid; ;Du brænder for dit fag, og har altid kundens behov i fokus ; Ansøgning og kontakt; ;Stillingen ... jobbet, er du velkommen til at kontakte marketingchef Marc Østerskov på mail span style="text-align: right; font-size: 10pt;">> 2016
  219.xml	05/09/2017 23.37.03	... søger en Digital Senior Strateg 2667879 Kontrapunkt A/S Vi søger en ny kollega, der kan gå forrest, ... i brandoplevelsen, og udvikling af digitale services og produkter spiller en større og større rolle ... værdi for brugerne og bruge den indsigt som fundament for innovative digitale produkter og services ... til brand udvikling ind i den kreative proces og forener strategi og designatnknng i relevante og ... med positiv effekt på kundernes forretning og organisation . Som Digital Senior Strateg arbejder du ... vores kunder med at udvikle deres brands med særligt fokus på nytænkning af digitale kontaktpunkter ... i verden; At lytte til nye gode idéer og give plads til at handle på de allerbedste; En tempofyldt ... på bitcoin; At gå ligeså meget op i din udvikling og dit karriereforløb som du selv gør; Periode Så ...
  218.xml	05/09/2017 23.37.03	... Finder du det spændende at omsætte vores kunders ønsker om øget medlems loyalitet og nye dialog ... Vi har specialiseret os i stordrift og udvikling inden for medlemsservice, aktuarservice, fonds ... arbejde med vores kunders udvikling og optimering indenfor digitale løsninger og kanaler. Specifikt ... handler det om at planlægge, gennemføre og forvalte dialogprogrammer på vores marketing automation platform ... indsats , hvor vi har stor fokus på servicedesign og arbejdet med data, indsigt og intelligens. Du ... ; Kan dokumentere resultater i forhold til opbygning af medlems-/kunde loyalitet ; Du er langt fremme ... Din troværdighed og pålitelighed værdsættes af kunder og kollegær. Har du også kendskab til ... 910 Kundeklubber/ loyalitet 8 Fuldtid DK Danmark 22 Sjælland ; øer 1249 Storkøbenhavn ...
  217.xml	05/09/2017 23.37.03	... Finder du glæde i at arbejde med digital udvikling med særligt fokus på kommunikation og medlems ... Vi har specialiseret os i stordrift og udvikling inden for medlemsservice, aktuarservice, fonds ... arbejde med vores kunders udvikling og optimering indenfor digitale løsninger og kanaler. Specifikt ... Dit særlige fokusområde bliver at sikre den kommunikative side i brugen af de digitale medier... indsats , hvor vi har stor

Split among the 2640 adds from Ofir



Among the 1495 in Mindfulness



Thank you for the attention

Per Gunnar Bergfors
pbg@cphbusiness.dk

Andreas Kiær Thomsen
akth@cphbusiness.dk





Appendix

Influencer mapping

Influencers

April/Maj 2019 – Base 741 job annoncer fra Dansk Markedsføring



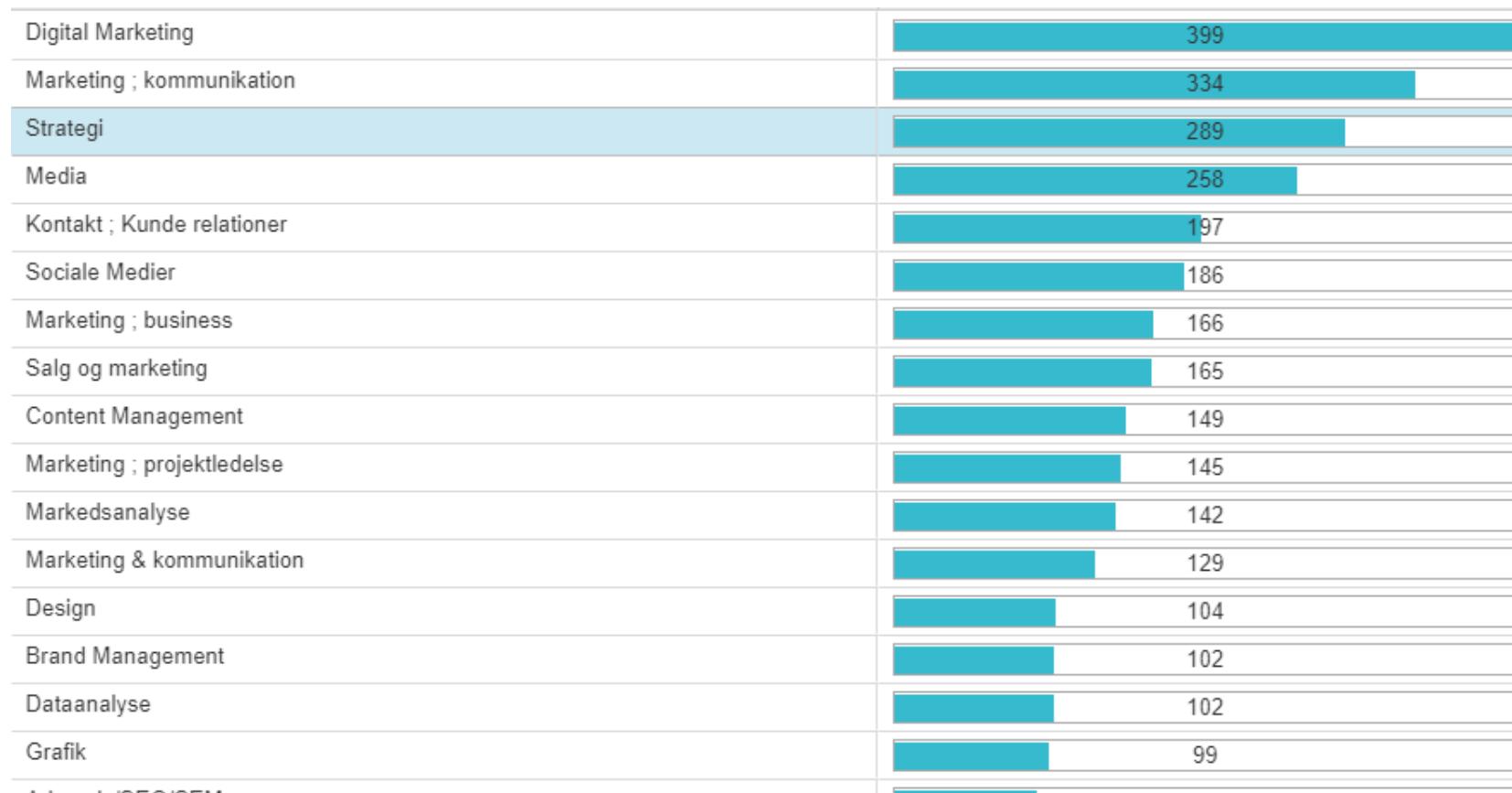


Beskrivelse af datasættet

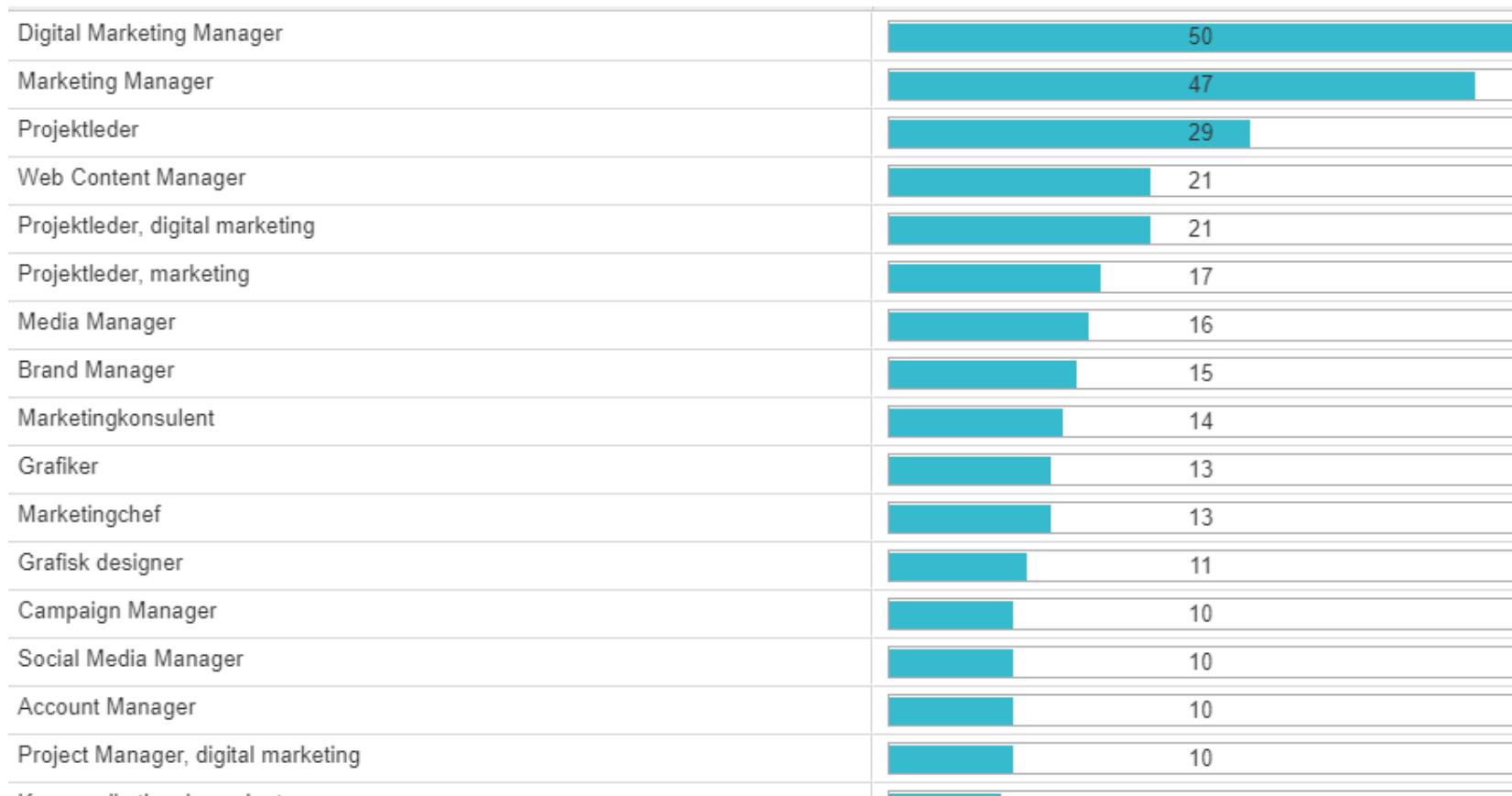
Alle 741 annoncer

- Udført som en del af projektet “Cphbusiness Kompetencerapporten” – afdækning af efterspørgslen af kompetencer gennem jobannoncer
- Database som opdateret 1. April 2019 med data fra Dansk Markedsføring
- Kontakt data
 - Per Bergfors pgb@Cphbusiness.dk
 - Andreas Kiær Thomsen akth@Cphbusiness.dk

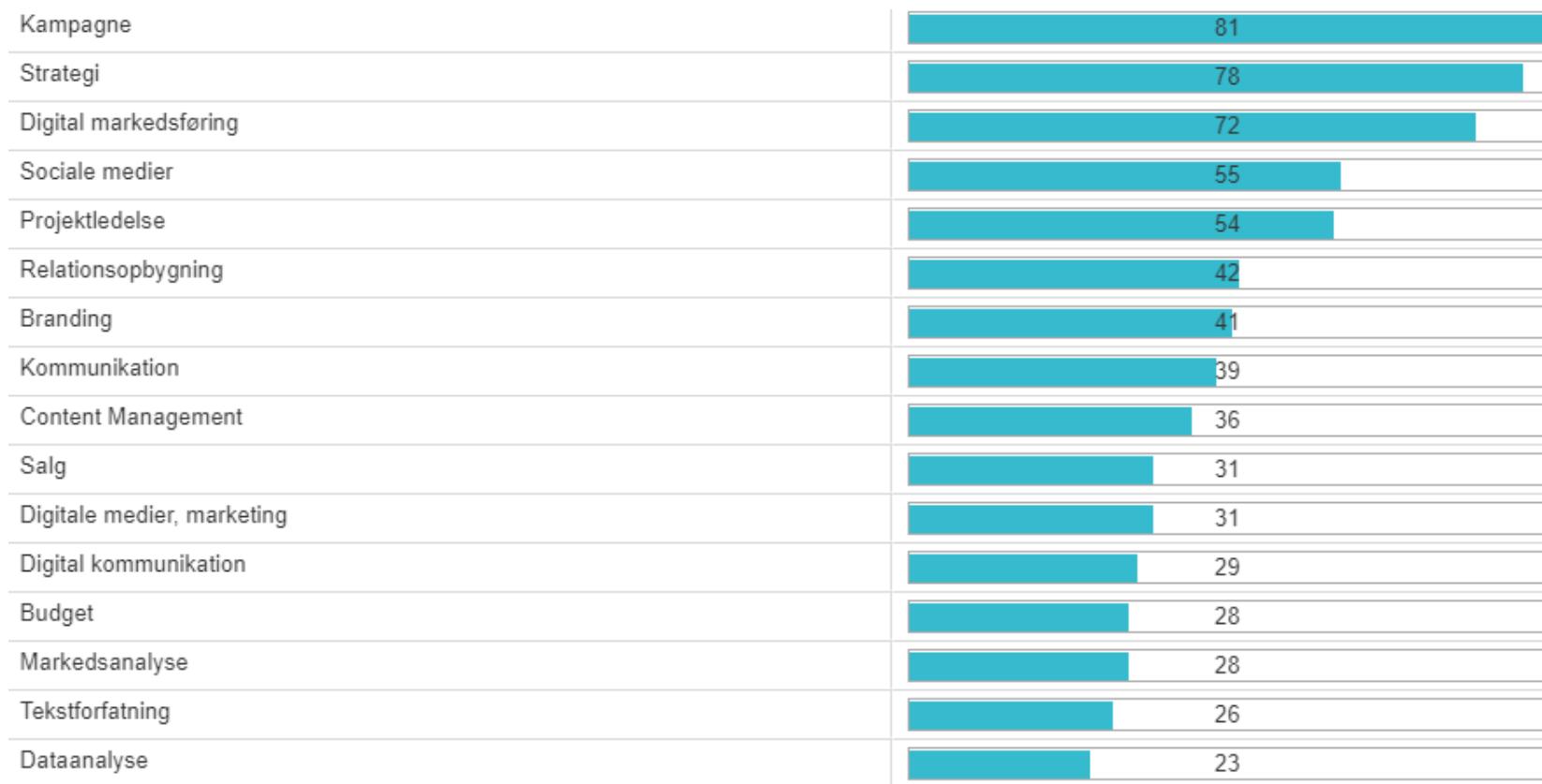
Jobkategorier



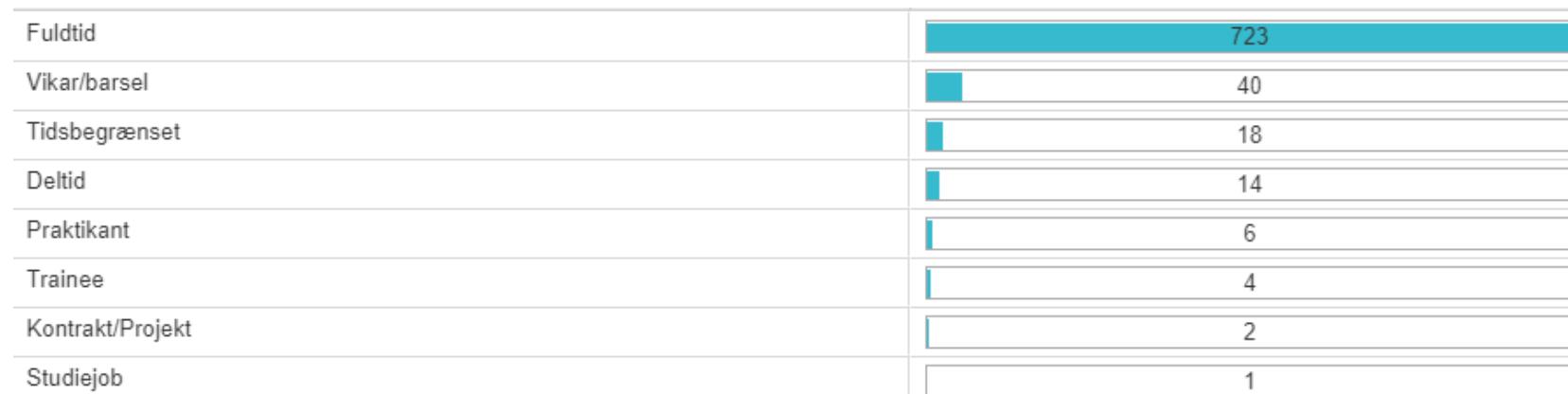
Jobtitel



Joberfarring



Jobtype





Influencers

68 annoncer ud af 741 – 9,1%

Søgekriterier

- Influenc*
- Blogg*
- Ambassad*
- Youtuber*
- Advoca*

Overvejelser:

Forsøger at afdække funktionen fremfor begrebet – så at blogge fremfor en blog, personen en youtuber fremfor kanalen youtube.

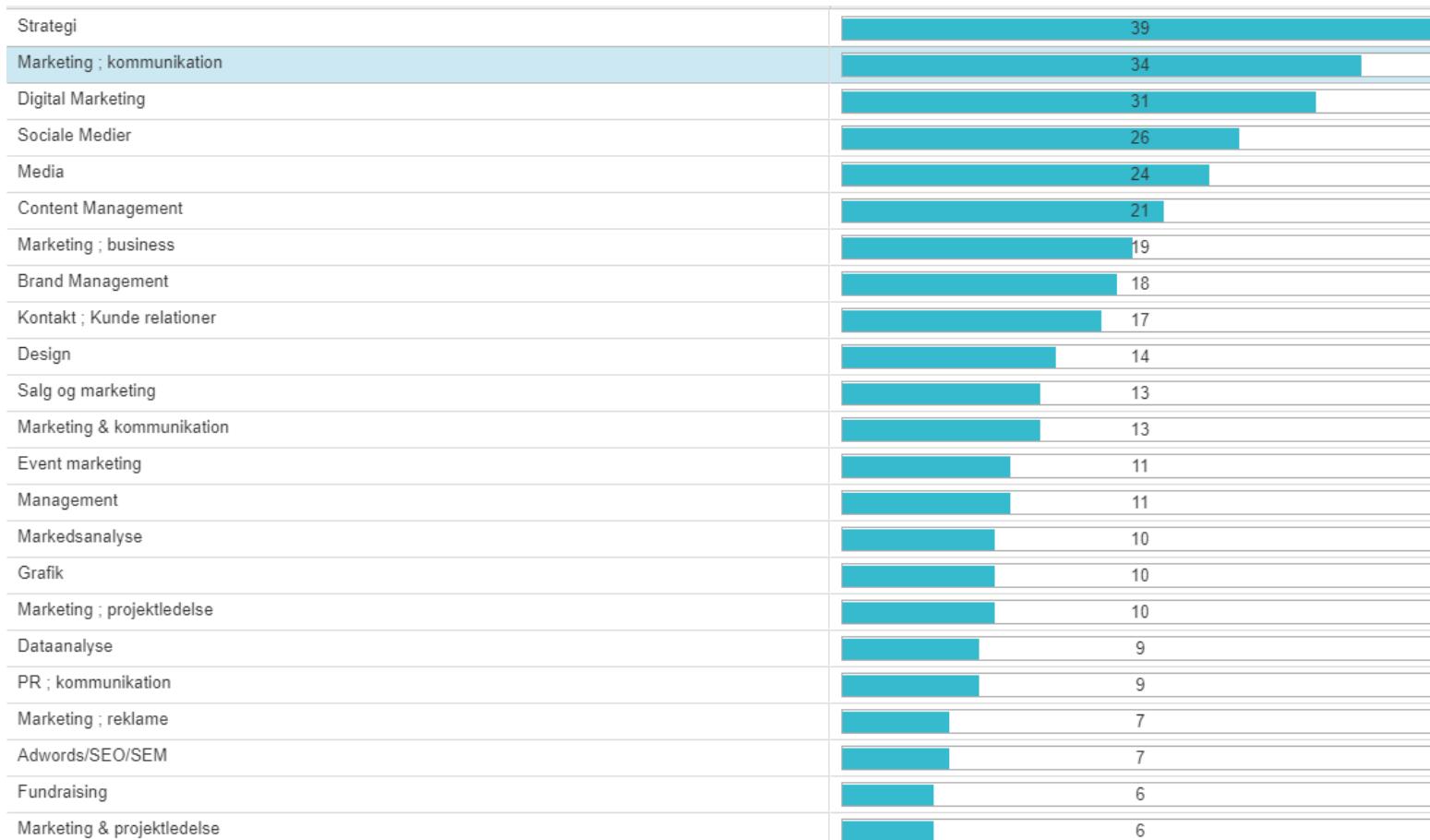
Alternative søgekriterier

- Instagram
- Facebook
- Twitter
- Linkedin
- Snapchat
- Pinterest
- YouTube
- Indflydelse
- Journalist
- Interesse

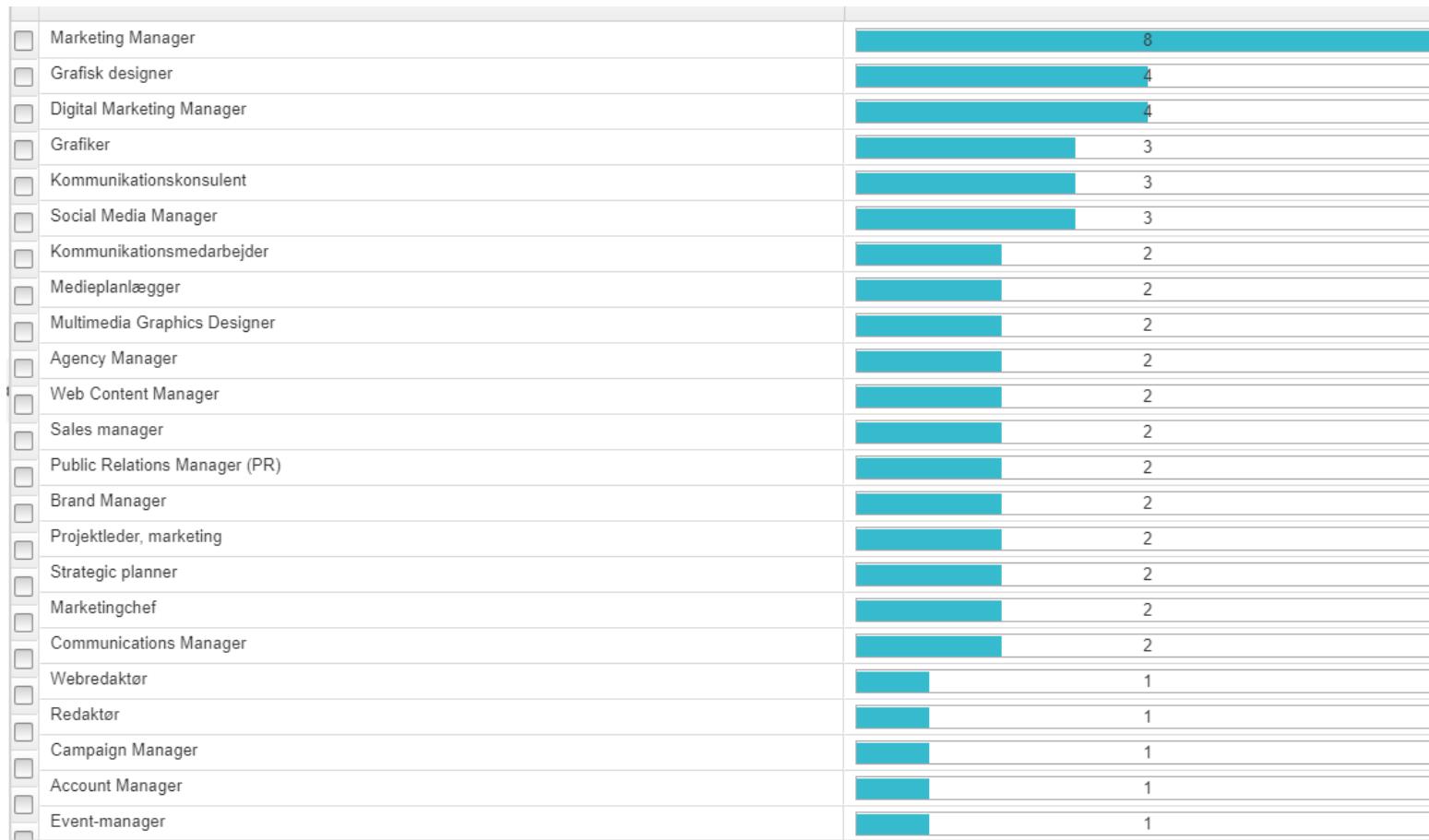
Virksomheder

<input type="checkbox"/>	TOP-TOY	8
<input type="checkbox"/>	TV2 Danmark A/S	3
<input type="checkbox"/>	Royal Unibrew	3
<input type="checkbox"/>	Berlingske Media	3
<input type="checkbox"/>	EATALY	3
<input type="checkbox"/>	Novozymes	3
<input type="checkbox"/>	MovieStarPlanet ApS	2
<input type="checkbox"/>	UNICEF Danmark	2
<input type="checkbox"/>	Mynewsdesk	2
<input type="checkbox"/>	Kompas Kommunikation	2
<input type="checkbox"/>	YOUSEE A/S	2
<input type="checkbox"/>	Test virksomhed MatchWork	2
<input type="checkbox"/>	Dot	2
<input type="checkbox"/>	VisitDenmark A/S	2
<input type="checkbox"/>	Adform A/S	1
<input type="checkbox"/>	ADVANCE A/S	1
<input type="checkbox"/>	VELUX A/S	1
<input type="checkbox"/>	Udenrigsministeriet	1
<input type="checkbox"/>	Novo Nordisk	1
<input type="checkbox"/>	Grundfos	1
<input type="checkbox"/>	Lix Technologies	1
<input type="checkbox"/>	Infomedia	1
<input type="checkbox"/>	SDC A/S	1

Job kategori



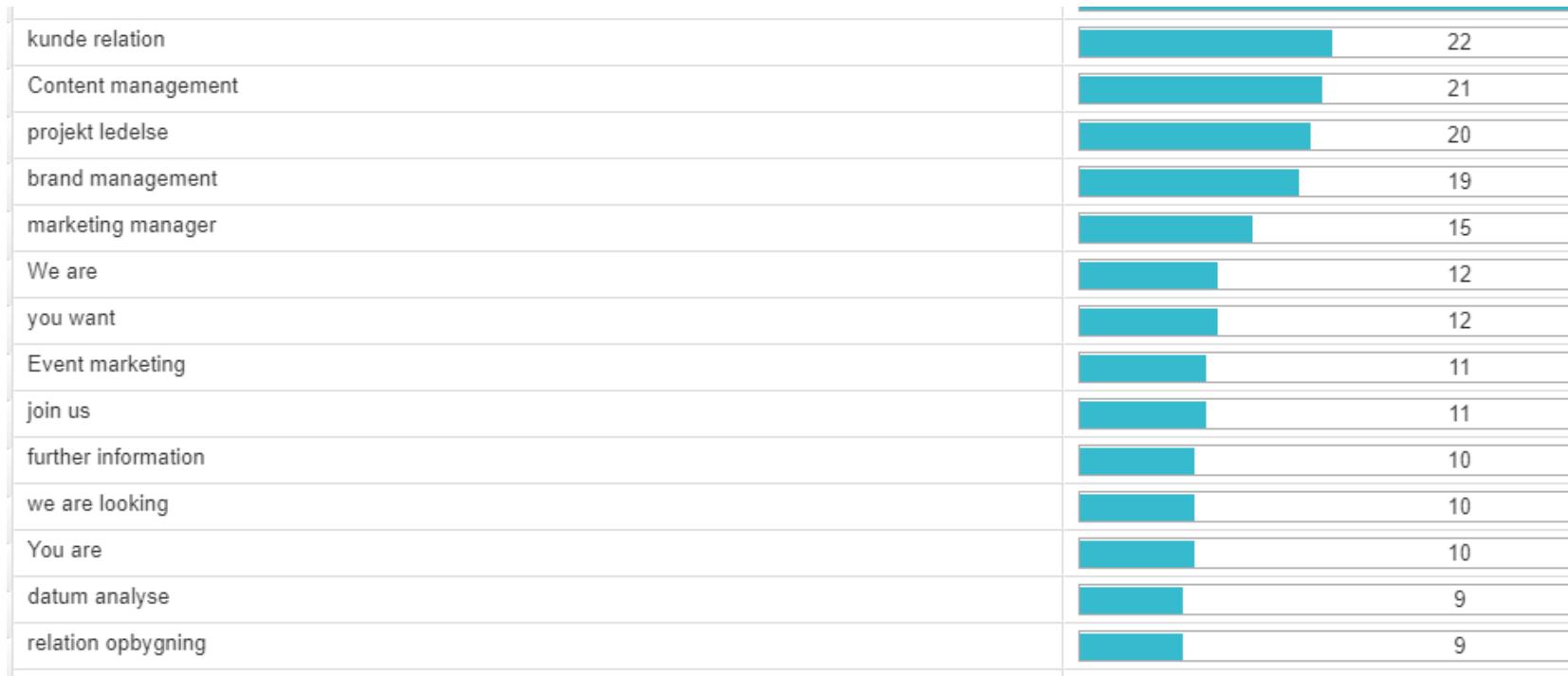
Job titel



Job erfarring

Sociale medier	12
Branding	10
Strategi	9
Digital markedsføring	8
Kampagne	7
Digital kommunikation	5
Relationsopbygning	5
Tekstforfatning	5
Kommunikation	5
Public Relations (PR)	5
Content Management	5
Online marketing	4
Projektledelse	4
Salg	3
Grafisk design	3
Markedsanalyse	3
Kunderådgivning	3
Marketing, generelt	3
Forretningsforståelse	3
Event-planlægning	3
Digitale medier, marketing	3
Dataanalyse	3
Projektledelse, marketing	2

Navneord sekvenser – brugt i annonce teksten



Karakteregenskaber





Kombinationer & kryds af
parameterværdier og
kriterier

Job title krydset med karakteregenskaber

Rækker: Job Title	3 ▾▲	Kolonner: Karakteregenskaber OECD	Hyppighed	1 ▼
Marketing Manager		mindfulness	6	
Marketing Manager		lederskab	5	
Kommunikationskonsulent		nysgerrighed	3	
Social Media Manager		lederskab	3	
Digital Marketing Manager		lederskab	3	
Digital Marketing Manager		mindfulness	3	
Marketing Manager		nysgerrighed	3	
Medieplanlægger		etik	2	
Agency Manager		resilien	2	
Brand Manager		resilien	2	
Social Media Manager		resilien	2	
Agency Manager		nysgerrighed	2	
Brand Manager		nysgerrighed	2	
Kommunikationsmedarbejder		nysgerrighed	2	
Multimedia Graphics Designer		nysgerrighed	2	
Projektleder, marketing		nysgerrighed	2	
Public Relations Manager (PR)		nysgerrighed	2	
Agency Manager		lederskab	2	
Agency Manager		mindfulness	2	
Brand Manager		lederskab	2	
Kommunikationsmedarbejder		lederskab	2	
Public Relations Manager (PR)		lederskab	2	
Web Content Manager		mindfulness	2	
Grafiker		nysgerrighed	2	

Job kategori krydset med job erfaring

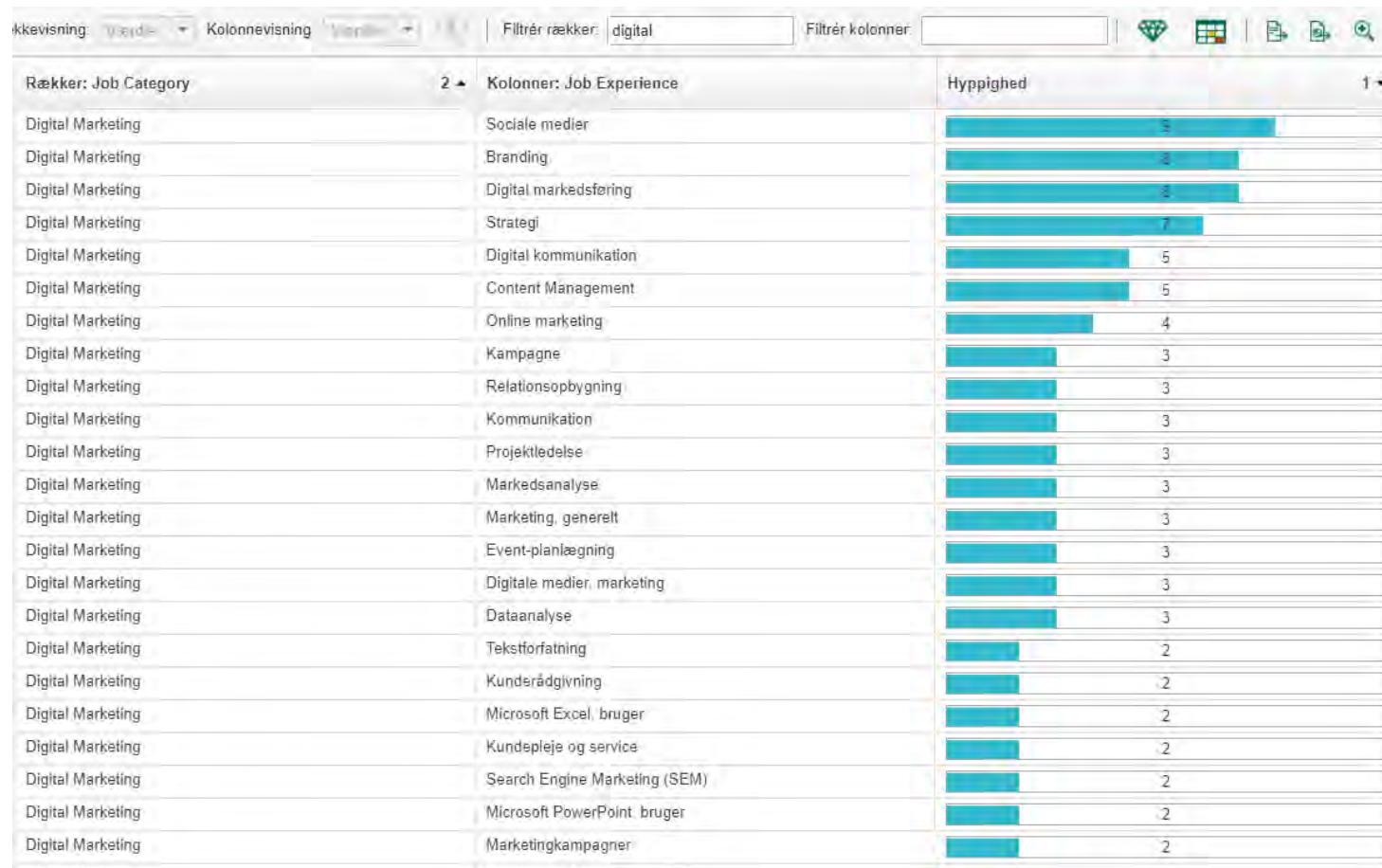
Rækker: Job Category	2 ▾	Kolonner: Job Experience	Hæufigkeit	1 ▾
Sociale Medier		Sociale medier	12	
Digital Marketing		Sociale medier	9	
Marketing ; kommunikation		Sociale medier	9	
Strategi		Strategi	9	
Brand Management		Branding	8	
Digital Marketing		Branding	8	
Digital Marketing		Digital markedsføring	8	
Strategi		Sociale medier	8	
Strategi		Branding	8	
Digital Marketing		Strategi	7	
Marketing ; kommunikation		Branding	7	
Marketing ; kommunikation		Digital markedsføring	7	
Brand Management		Strategi	6	
Marketing ; kommunikation		Strategi	6	
Marketing ; kommunikation		Kampagne	6	
Sociale Medier		Branding	6	
Sociale Medier		Digital markedsføring	6	
Brand Management		Sociale medier	5	
Brand Management		Content Management	5	
Content Management		Sociale medier	5	
Content Management		Branding	5	

Filter på “social”

Visning: Værdier | Kolonnevisning: Værdier | Filtrér rækker: social | Filtrér kolonner: |

Rækker: Job Category	2 ▾	Kolonner: Job Experience	Hæufigkeit	1 ▾
Sociale Medier		Sociale medier	12	
Sociale Medier		Branding	6	
Sociale Medier		Digital markedsføring	6	
Sociale Medier		Strategi	5	
Sociale Medier		Kampagne	5	
Sociale Medier		Kommunikation	5	
Sociale Medier		Content Management	5	
Sociale Medier		Digital kommunikation	4	
Sociale Medier		Relationsopbygning	3	
Sociale Medier		Tekstforfatning	3	
Sociale Medier		Public Relations (PR)	3	
Sociale Medier		Projektleitung	3	
Sociale Medier		Dataanalyse	3	
Sociale Medier		Online marketing	2	
Sociale Medier		Grafisk design	2	
Sociale Medier		Marketing, generelt	2	
Sociale Medier		Event-planlægning	2	
Sociale Medier		Digitale medier, marketing	2	
Sociale Medier		Web-design	2	
Sociale Medier		Marketingkampegnar	2	
Sociale Medier		Digitaldesign	2	

Filter på “digital”





Eksempler på annonce
med matchværdier

Eksempel 1

329843724

Kompas Kommunikation søger healthcare-rådgivere

2949324

Kompas Kommunikation

Har du erfaring med kommunikation inden for sundheds- og medicinalområdet? Vi søger healthcare-rådgivere med lyst til at arbejde på et strategisk og kreativt bureau med 14 års erfaring i at kommunikere om sundhed, sygdom og behandling.

Har du:

Erfaring (2 år eller mere) med at kommunikere om sundhed og medicin?

En kommunikationsuddannelse eller lignende?

Entusiasme og lyst til at arbejde på bureau, hvor ikke to dage er ens?

Så vil vi gerne høre fra dig!

Vi kan tilbyde dig et job med masser af ansvar og indflydelse og mulighed for mere af det hele, hvis du har talentet og ambitionerne. Spændende og udfordrende arbejdsopgaver og kreative, strategiske kampanjer som du selv er med til at udtaenke, eksekvere og præsentere. Kolleger med kompetencer inden for både sundheds- og forbruger-kommunikation, grafik, film og digitale leverancer. Og et rart og fleksibelt arbejdsmiljø med fuld fart, masser af humor og en meget jovial omgangsform.

OBS: Ansøgere uden erfaring med healthcare-kommunikation tages ikke i betragtning.

Hvem er Kompas?

Kompas Kommunikation er stiftet for 14 år siden som PR-bureau. Siden har vi udviklet os i takt med tiden, medierne, forbrugerne og kunderne. I dag er vi et 360 graders strategisk og eksekverende PR- og kommunikationsbureau med fokus på især forbrugere, patienter, fagpersonale og borgere. Vi er betroede rådgivere og eksperter for en lang række store og faste kunder.

Vi er ansvarlige for vores kunders sociale medier, og vi har egen filmafdeling, hvor vi laver animationsfilm, contentfilm og mere omfattende, kreative kampanjefilm. Vi har opbygget mange års erfaring med at engagere influencers, bloggers og youtubers, og vi har en stærk grafisk afdeling, som mestrer de visuelle fortællinger i kreative kampanjer og koncepter.

Vi har kontor i Toldbodgade 55 i hjertet af København, og vi er det eneste danske bureau i et af verdens største PR-netværk, Weber Shandwick, hvorigennem vi kan rulle kampanjer ud i hele verden.

Bliv healthcare-rådgiver hos Kompas

Send allerede nu en motiveret ansøgning og CV til os. Vi holder samtaler løbende. Eventuelle spørgsmål om stillingerne kan rettes til de to healthcare-ansvarlige partnere Thomas Hartvig (thomas@kompas.dk / 21659670) og Camille Aulkær Andersen (camille@kompas.dk / 51900583)

Eksempel 2

Lokal titel:

PANDORA søger Global PR Manager
2806063
PANDORA A/S

THE GLOBAL PR TEAM AT PANDORA GROUP IS SEEKING AN EXPERIENCED INTERNATIONAL PR MANAGER WHO IS PASSIONATE ABOUT DEVELOPING INSPIRING AND INNOVATIVE GLOBAL PR CAMPAIGNS AND MATERIALS; IS AN EXCELLENT COMMUNICATOR; HAS A STRONG AND PROVED TRACK RECORD IN HANDLING KEY MEDIA AND **INFLUENCERS**; WHO KNOWS HOW TO OPERATE WITHIN THE DIGITAL AND SOCIAL SPHERE.

PANDORA is constantly growing, and so is the Global PR team. We are therefore looking for a new colleague to join us as PR Manager at PANDORAs Global Head Office. You will have the opportunity to work with other talented and creative minds in an inspiring and collaborative environment, for a world-renowned global jewellery brand, known for its high quality, hand-finished and contemporary design, at affordable prices. Responsibilities will include: ;

Working alongside the Global Communications Director to develop Global PR strategies and campaigns.;

Leading the development of Global PR Toolkits ensuring alignment with all other internal teams.;

Project management lead for photoshoots, when developing Global PR material. ;

Project management lead for PR events as well as key media interviews with key spokespeople. ;

Project management lead and building of relationships with global **ambassadors**, such as celebrities, stylists, models, key media, **influencers** etc.

Responsible for management of sponsorships and collaborations. ;

Digital PR working alongside the Global PR Director to define a Global Digital PR strategy for the brand, collaborating with other teams (Social team ; Digital team) to ensure digital synergies across the company, and leading the implementation of that strategy. ;

Responsible for bridging to our markets globally, providing them with PR support depending on regional needs. ;

Skills and experience: ;

Minimum 8-10 years of experience as PR expert in the field of product / brand / lifestyle / fashion communication, either agency side and/or preferably with another international brand. ;

A creative, strategic and commercial mindset with an ability to think bigger picture. ;

Excellent project management skills, with leadership experience. ;

Strong experience in handling PR events and press open days. ;

Strong experience and knowledge of the way media and **influencers** work/think and also which tools and content work well for them. ;

Strong experience in handling models, **bloggers**, **influencers** including key media. ;

A clear understanding of the international media landscape and key markets. ;

Flair for developing inspiring and engaging press material for both traditional and digital PR. ;

You speak/write English fluently and have worked in an international environment before. ;

Experience with writing, editing content and proofreading is important. ;

Well acquainted with the fashion and lifestyle industry. ;

You are able to work well under pressure and meet deadlines. ;

Eksempel 3

LJA-41584263

Greenpeace søger Key Relationships ; Influencers Coordinator
2798284

Greenpeace Nordic

;Want to join us on the right side of history and help make the world a better place? Join our international team of enthusiastic key influencers coordinators at Greenpeace! We are now looking for a full-time Key Relationships ; Influencers Coordinator to support our global key influencers community.

About the role:

Greenpeace has a history of delivering successful campaigns and projects in collaboration with external influencers. In past campaigns we have sent a strong message to the UN, delivered by Emma Thompson, an open letter to Vladimir Putin signed by Paul McCartney during the imprisonment of the Arctic30 and by working with cultural leaders within our communities like actors, musicians, YouTubers, visual artists and many others, we have reached millions of hearts and minds.

In 2017, Greenpeace is taking this work to the next level and establishing our Global Key Influencers Programme and the Key Relationships ; Influencers Coordinator will play a key part in making this happen.

This full-time position based in either the Nordic region or somewhere in Europe is responsible for coordinating within Greenpeace global key influencers community. Its about working closely with colleagues across the global organisation to investigate, test and evaluate new initiatives to maximise our external work with key influencers. The roles responsibilities include giving input and advice, enable internal and external collaboration, support teams, capture, maintain and update data.

Key responsibilities of this role include:

; Contribute to the overall visibility of Greenpeace by being a central liaison within the global key influencers community.

; Support the Global Key Influencers Programme Leader to help develop the organisation-wide strategy.

; Support Greenpeace national and regional key offices working with key influencers to give guidance, strategic advice and operational assistance.;
;About you:

; Bachelors degree in Marketing, Business or other associated field and /or equivalent work experience.

; At least 3 years experience in working with key relationships or related marketing field.

; Experience of dealing with celebrities and high profile individuals in a professional manner, fundraising and working within a charity.

; Ability to support and guide staff, inspire team spirit and resolve conflicts, communicate effectively by demonstrating strong listening skills, and negotiation skills.