



Minerva
A people excellence lab

SALARY SURVEY REPORT SOFTWARE ENGINEERS

PAKISTAN - 2023

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A NOTE.

Hey,

Having spent years in the thick of the talent space at Minerva, navigating the world of software engineers, founders, and those hunting for tech talent, I've seen it all – the good, the bad, and the unexpected. And let's be honest, figuring out the "right" salary has always been a bit of a puzzle.

A lot has changed in recent years. The ripples of COVID-19, the surge in startup funding, and skyrocketing salaries. For a while, the market turned into one where talent called the shots. As boundaries dissolved, remote and hybrid roles became the norm, opening up global opportunities for our incredibly talented Pakistani engineers. However, the recent economic shifts and tighter funding have tossed us a new set of challenges with salaries.

At Minerva, we felt the uncertainty and the need for clarity and decided it was time to get some answers. That's why we rolled up our sleeves and decided to dive deep with a comprehensive salary survey.

And this is just the beginning; we're in this for the long haul, with plans to partner with employers for even deeper insights. Our aim? To keep our data fresh and relevant, giving you the info you need when you need it.

Got thoughts on what you'd like to see next, or feedback on our current survey? We're all ears. A huge thanks to everyone who's helped us take this first step towards clearer salary choices. If you've found this report handy, go ahead and spread the word. The more people who see it, the better our next survey will be.

Sana Khalid,
CEO, Minerva

INTRO- DUCTION.

A Changing Landscape

The world of software engineering in Pakistan has undergone seismic shifts in the past few years. A combination of global events, local industry dynamics, and the relentless pace of technological advancement has turned salary benchmarks into moving targets. From the disruptive impact of COVID-19, which redefined workplace norms, to the exhilarating rise (and subsequent dip) of the startup ecosystem, the traditional boundaries and norms of compensation have been stretched, challenged, and reimaged.

Why This Report?

In this whirlwind of change, one thing became evident: there was a pressing need for clarity. Both software engineers and employers found themselves navigating uncharted waters without a compass. How do you determine a fair compensation? What is the industry norm? Where do you stand in the grand scheme of things?

That's where Minerva stepped in. With our deep roots in the talent space and our commitment to fostering a transparent, empowered tech community, we took on the challenge to shed light on these pressing questions. This report is the result of extensive data collection, analysis, and insights, all aimed at providing a comprehensive view of the current salary landscape for software engineers in Pakistan.

What's Inside?

Dive in, and you'll find a wealth of information ranging from overall salary distributions, breakdowns by experience, tech stacks, and job roles, to insights into how factors like work mode (remote, hybrid, on-site) influence pay scales.

Your Role in This Journey

This isn't just a report; it's a conversation. As you go through these pages, reflect, analyze, and ask questions. We've done our best to provide a clear snapshot of the present, but the future? That's a story we'll write together. Whether you're a software engineer charting out your career path, or an employer striving to build a motivated, well-compensated team, this report is your starting point.

Please also feel free to write to us at sana.k@minervites.org shall you have any questions or feedback.

METHOD- OLOGY.

Why This Report?

Our goal was to establish a clear view of salary ranges today and lay the groundwork for similar deep dives in the future. But we didn't stop at just numbers; we wanted to unravel the story behind the salaries – the different factors that are playing a role in shaping them and how much impact each factor really has.

Understanding the landscape

We looked at past studies and spoke to dozens of employers and employees – people whom we expect would find this report useful. This helped us tailor our methodology to cover what's most relevant and useful.

Guiding Principles of Our Research

Here's what steered our methodology:

- Salaries are more than just numbers; they're stories. They're influenced by a variety of elements, and they're part of a bigger compensation package. Our survey aimed to capture these subtleties while still being straightforward enough to encourage honest responses.
- We went straight to the source: individuals. This approach was chosen to ensure we got independent perspectives. We cross-referenced with our internal recruitment data where necessary, but the spotlight was on personal experiences.

Crafting the Survey

We designed a survey that's comprehensive yet clear. It gathers key details ranging from job roles and experience to tech stacks and additional perks. Clarity and ease of response were our top priorities, ensuring reliable and precise data.

Collecting the Data

We wanted to ensure we could cast the net wide enough to get a comprehensive view of the salary landscape in Pakistan. To spread the word, we leveraged social media, our own extensive network of professionals in the industry, and our partnerships with alumni offices at universities across Pakistan.

METHOD- OLOGY.

Numbers at a Glance

From 1,200 responses, we distilled it down to 865 after a thorough data cleaning process. We sifted through the data to remove any ambiguities and standardized the entries for a more accurate analysis.

Data Analysis

We employed various statistical tools to unearth insights. This included descriptive statistics for an overview, segmented analysis for comparisons, and correlation studies to identify trends and relationships.

Feedback and Refinement

We shared a preliminary version with a select group of experts and participants for their input. This feedback was instrumental in honing our findings to ensure they're not only insightful but also actionable.

Confidentiality and Ethical Standards

At Minerva, integrity is paramount. All survey responses were anonymized to protect privacy. We're committed to upholding the highest standards of data integrity and respondent confidentiality.

LIMITATIONS.

Inherent challenges in research:

Research, by its nature, is a snapshot in time. The tech industry, in particular, is dynamic, with roles, technologies, and market demands evolving rapidly. This means that while our findings are accurate now, they may need updating sooner than in more stable industries.

Representative Sampling

Achieving a sample that perfectly represents the entire population of software engineers in Pakistan is challenging. Some segments might be underrepresented, and others might be overrepresented.

Recall and Reporting Errors

As with any survey that relies on self-reported data, there's always the possibility of recall errors or unintentional misreporting.

WHAT WE WOULD DO BETTER NEXT TIME.

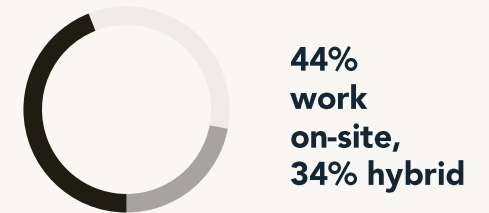
As our first attempt at conducting a salary survey, there were a lot of learnings that we are incorporating into our research methodology for future salary surveys and guides.

Here are some things we can now do better based on our learnings:

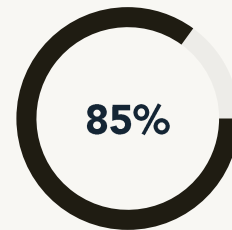
- **Diversity and representation:** While the sample size was significant, our efforts to ensure diversity of responses may have fell short. In particular, we were unable to get significant representation from women and individuals outside of Islamabad, Karachi and Lahore. We are committed to ensuring we make additional efforts to increase our outreach to categories of individuals that
- **Survey design:** We made all efforts to design a comprehensive survey but, if designed better, we could have improved our ability to generate better insights. Particularly in a market where every organisation structures its departments and job titles differently, and levels are not standardised, small changes to survey design could assist us with better classifications and categorisations.
- **Case studies:** We believe in our approach to restrict the survey to responses from individuals instead of organisations. However, next time, we hope to include deeper case studies on compensation and benefits structures at a range of organisations to provide easy to understand frameworks that others can adapt to their needs.

WHO PARTICIPATED

1,200
unique participants

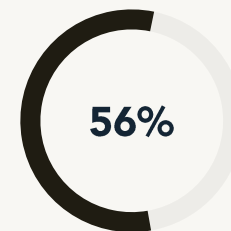


335
respondents didn't
qualify



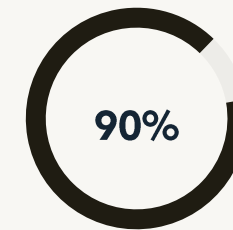
**have a Bachelor's
degree**

Graduates of FAST, NUST, LUMS, IBA and GIKI make up 46% of all respondents.



**have up to 3 years of
experience**

33% have between 3 to 7 years of experience. Only 10% have 7+ years of experience



Earn in PKR

USD is the second most common currency among respondents.

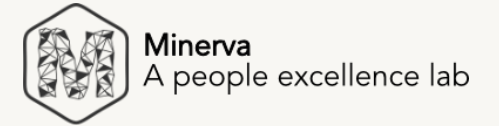
865
unique respondents
analysed



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ANALYSING TRENDS OF PARTICIPANTS EARNING IN PKR

AVERAGE MONTHLY SALARY



This is an analysis of respondents who earn in PKR only.

Years of experience	Less than 1 year	1 – 3 years	Between 3 - 5 years	5 – 7 years	7 – 10 years*	More than 10 years*
Category						
Software Engineering	92,000	154,000	254,000	327,000	331,000	472,000
Software Architecture	-	80,000	162,000	471,000	618,000	741,000
Cloud/DevOps	96,000	134,000	244,000	569,000	550,000	388,000
Data Engineering	97,000	167,000	384,000	354,000	250,000	490,000

*The numbers in these categories may be skewed due to a relatively low number of respondents.



UNDERSTANDING THE FULL SPECTRUM

While average salaries can provide a central point, giving a general sense of overall compensation levels, averages can be influenced by extreme values (very high or low salaries), which is why it's not the only measure to consider.

On the following pages, you will come across:

Median Salary: The median represents the middle point of the data set, where half of the salaries are higher, and half are lower. Unlike the average, the median is not skewed by outliers, making it a reliable indicator of the typical salary in a given role.

Percentiles (25th and 75th): Percentiles give insight into the distribution of salaries. The 25th percentile indicates that 25% of salaries fall below this point, often reflecting the lower end of the pay scale, while the 75th percentile shows the upper end of the salary range.

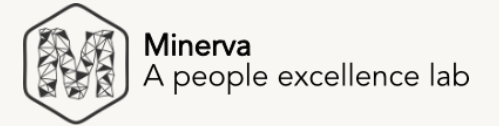
Minimum and Maximum Salaries: These values define the range of the data. The minimum salary offers insight into the entry threshold for a role, while the maximum salary indicates the highest earning potential within that role.

SALARY DISTRIBUTION: SOFTWARE ENGINEERING

This is an analysis of respondents who earn in PKR only.

Years of experience	Average	25th percentile	Median	75th percentile	Minimum	Maximum
Less than 1 year	92,000	53,000	80,000	120,000	25,000	320,000
1 – 3 years	154,000	90,000	128,000	170,000	25,000	2,500,000
3 – 5 years	226,000	140,000	190,000	260,000	40,000	3,000,000
5 – 7 years	327,000	219,000	300,000	385,000	100,000	800,000
7 – 10 years	331,000	260,000	310,000	390,000	91,000	700,000
10 + years	472,000	230,000	379,000	478,000	67,000	1,900,000

SALARY DISTRIBUTION: SOFTWARE ARCHITECTURE



This is an analysis of respondents who earn in PKR only.

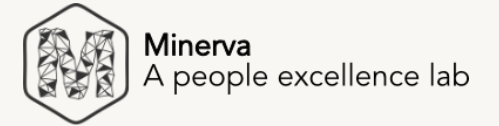
Years of experience	Average	25th percentile	Median	75th percentile	Minimum	Maximum
Less than 1 year	-	-	-	-	-	-
1 – 3 years	80,000	80,000	80,000	80,000	80,000	80,000
3 – 5 years	162,000	162,000	162,000	162,000	162,000	162,000
5 – 7 years	471,000	245,000	300,000	612,000	190,000	924,000
7 – 10 years	618,000	340,000	372,000	650,000	330,000	1,400,000
10 + years	741,000	484,000	550,000	694,000	346,000	1,600,000

SALARY DISTRIBUTION: CLOUD / DEVOPS

This is an analysis of respondents who earn in PKR only.

Years of experience	Average	25th percentile	Median	75th percentile	Minimum	Maximum
Less than 1 year	96,000	70,000	100,000	110,000	50,000	150,000
1 – 3 years	134,000	78,000	100,000	205,000	35,000	260,000
3 – 5 years	244,000	205,000	270,000	330,000	70,000	350,000
5 – 7 years	569,000	519,000	600,000	650,000	275,000	800,000
7 – 10 years	550,000	450,000	550,000	650,000	350,000	750,000
10 + years	388,000	381,000	388,000	394,000	375,000	400,000

SALARY DISTRIBUTION: DATA ENGINEERING



This is an analysis of respondents who earn in PKR only.

Years of experience	Average	25th percentile	Median	75th percentile	Minimum	Maximum
Less than 1 year	97,000	65,000	80,000	110,000	50,000	200,000
1 – 3 years	167,000	135,000	150,000	190,000	65,000	332,000
3 – 5 years	384,000	170,000	255,000	276,000	137,000	700,000
5 – 7 years	354,000	272,000	310,000	363,000	233,000	700,000
7 – 10 years	250,000	250,000	250,000	250,000	250,000	250,000
10 + years	490,000	445,000	490,000	535,000	400,000	580,000



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TRENDS

The Many Layers of Salaries

Before we jump into the nitty-gritty of the results from the salary survey, we want to take a moment to remind everyone just how complex and varied salaries can be. Think of a salary not as a fixed number but as a story, one that's influenced by a whole bunch of different elements.

We're going to look at some key factors that often swing the salary pendulum in one direction or the other. These include:

Gender: It's an open secret that the gender pay gap is a real deal. We're taking a closer look at how this plays out.

Type of Work Arrangement: Whether you're logging in from your home office, heading into a corporate building, or balancing a bit of both, your work setup can have a big say in what your paycheck looks like.

City Vibes: Salaries aren't just about job titles; they also dance to the tune of where you live. From bustling metros to quieter towns, location matters.

Perks and Extras: Compensation goes beyond just the base salary. Perks like health benefits, gym memberships, or flexible hours can add significant value to the overall compensation package.

As we dive into these areas, remember: what you see in the report might resonate with your experience, or it might not. We're peeling back the layers to show general trends and patterns, but everyone's salary story is unique. Our aim? To give you a comprehensive view of the salary landscape, with all its ups, downs, and everything in between.

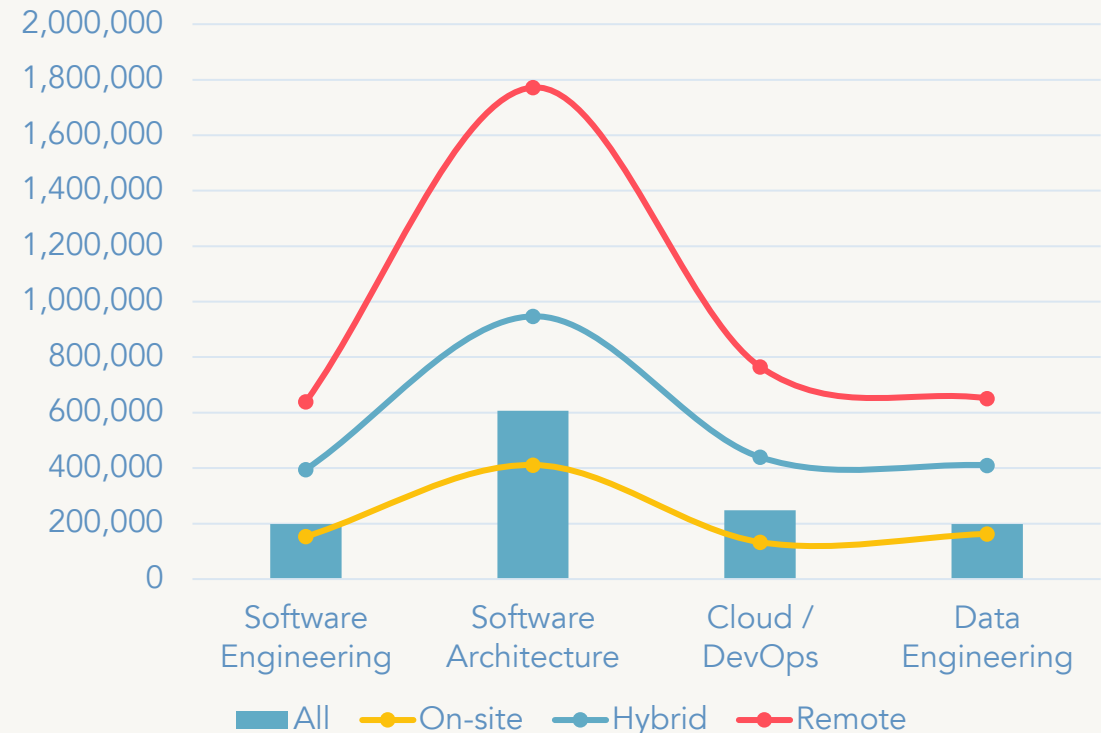
RELATION: AVERAGE MONTHLY SALARY AND WORK ARRANGEMENT

This is an analysis of respondents who earn in PKR only.

The data does highlight an interesting trend: there is a direct and positive correlation between the prevalence of remote work and higher salary levels.

Compared to on-site workers, remote workers earn approximately 75% more.

The trend towards higher pay for remote roles is most likely a reflection of the broader market dynamics. In a globalised job market, remote work opens opportunities for employees to work for foreign companies, which might offer higher salaries due to currency exchange rates or simply higher wage standards in their countries.

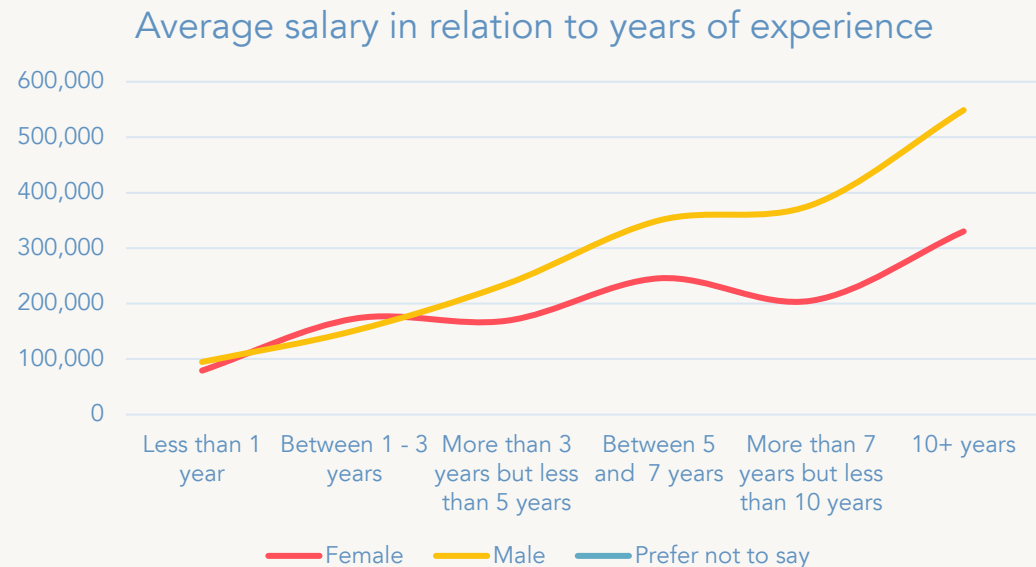
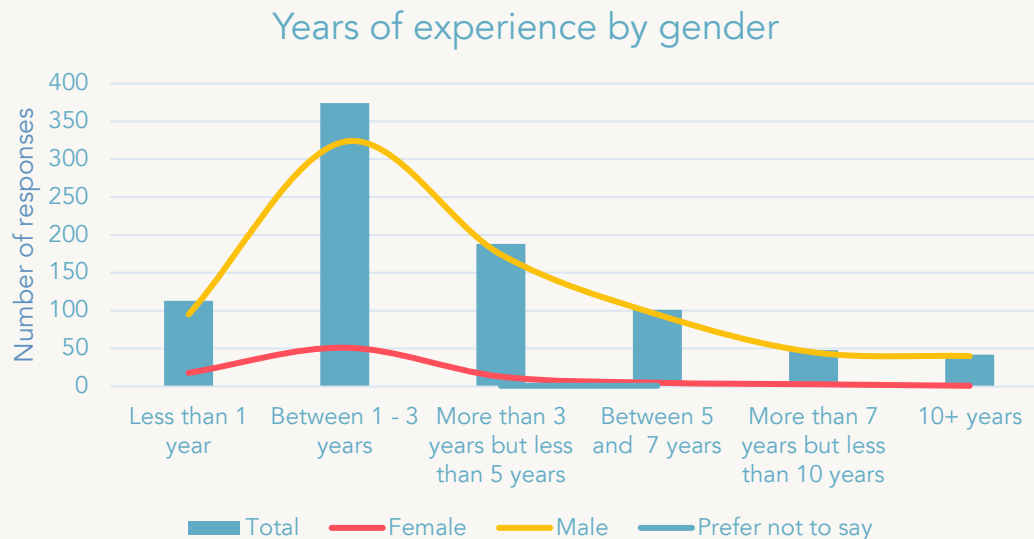


RELATION: AVERAGE MONTHLY SALARY AND GENDER

This is an analysis of respondents who earn in PKR only.

Females make up only 11% of all respondents. Of the 42 respondents with over 10 years of experience, only 1 is a female. The data, therefore, may be too skewed for meaningful insights or conclusions. It may leave you with some food for thought, however, on the general disparity in the number of women in tech, particularly in senior roles.

Despite the skewed data, one observation may be interesting, nonetheless. While males and females earn similar salaries in the early stages of their careers, **the salary gap continues to get bigger as years of experience increase, with men earning an over 40% higher average salary between the 3 – 7 years of experience bracket.**



RELATION: AVERAGE MONTHLY SALARY AND PERKS

This is an analysis of respondents who earn in PKR only.

When we peek at the perks versus paycheck scenario, we saw some interesting trends. Let's break it down:

Equity's the Big Winner: Employees who receive equity as a perk have a significantly higher average salary (PKR 337,278) compared to those who do not (PKR 217,588).

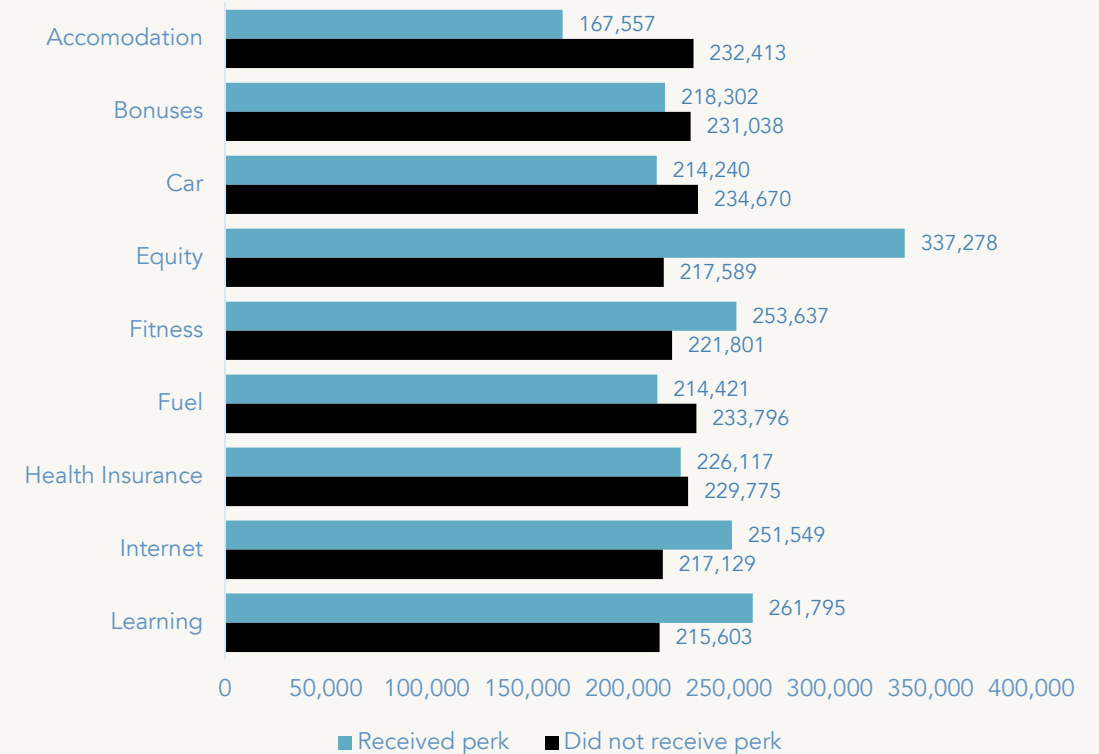
Perks typically associated with lower salaries: Data shows that employees with benefits such as accommodation, bonuses, cars, fuel, and health insurance actually have lower average salaries than those without them. This could indicate that while these perks are tangible benefits, they may be offered as part of a total compensation package that includes a lower base salary.

Learning and Internet: These perks show a substantial positive difference in average salaries for employees who have these perks. This could reflect a trend where companies investing in employee development and providing internet allowances may also be those that offer higher salaries. Possibly a hint at the knowledge-based economy?

The data, and our experience generally, has shown that perks often reflect a company's culture or sector. For instance, that lower base salary could well be offset by a perk that's worth its weight in gold in terms of lifestyle or personal growth.

Regardless, it's important to remember that this data doesn't necessarily imply causation; higher salaries may not be directly caused by these perks. Instead, these perks could be indicative of certain industries or company policies that are correlated with higher pay.

Average salaries in relation to perks



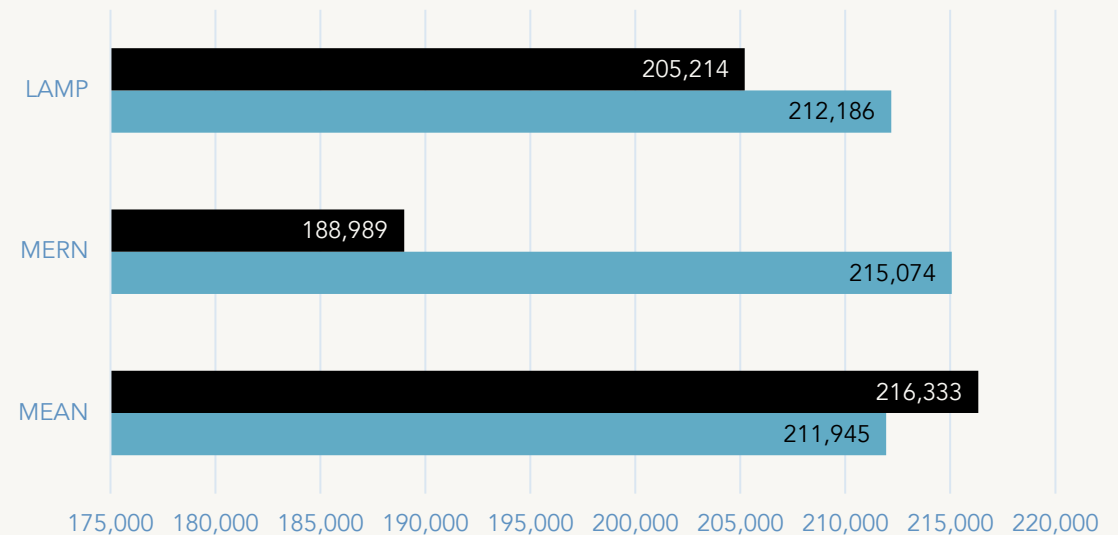
RELATION: AVERAGE MONTHLY SALARY AND TECH STACK

This is an analysis of respondents who earn in PKR only.

We analysed the average monthly salaries based on the use of most frequently used technology stacks: LAMP, MERN and MEAN.

Data suggests that those who work with MEAN have the highest average salary compared to those who don't.

Average monthly salary by most frequent technology stacks



The table demonstrates the average salaries of individuals and without expertise in each of the technology stacks.

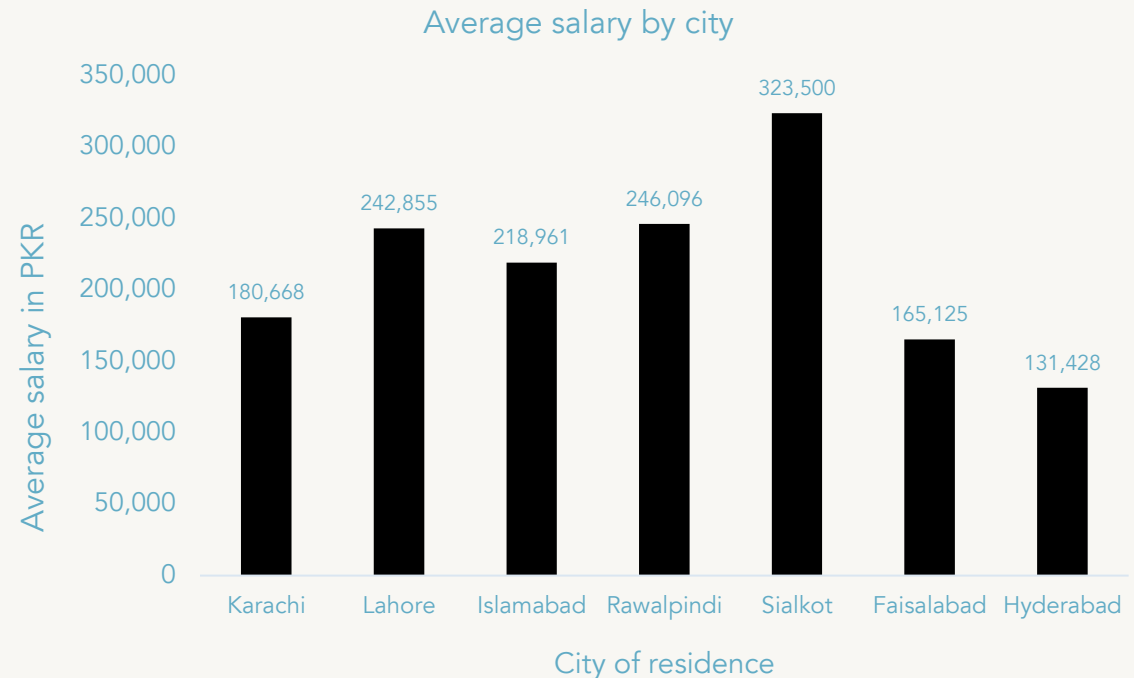
RELATION: AVERAGE MONTHLY SALARY AND CITY

This is an analysis of respondents who earn in PKR only.

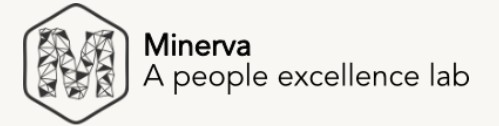
87% of all respondents reside in Karachi, Lahore or Islamabad (KLI). The table on the left shows data from Rawalpindi, Silakot, Faisalabad and Hyderabad for reference. However, the number of respondents from these cities is too low to make any reasonable conclusions.

Among the three cities of KLI , Lahore has the highest average salary at PKR 246,096. This isn't surprising, given Lahore has been considered the technology hub with a concentration of major software houses.

Karachi, despite being the financial capital, shows a comparatively lower average salary at PKR 180,668. This might reflect a wider range of job types and sectors within the city or possibly a higher degree of salary variation.



RELATION: AVERAGE MONTHLY SALARY AND EDUCATIONAL BACKGROUND



This is an analysis of respondents who earn in PKR only.

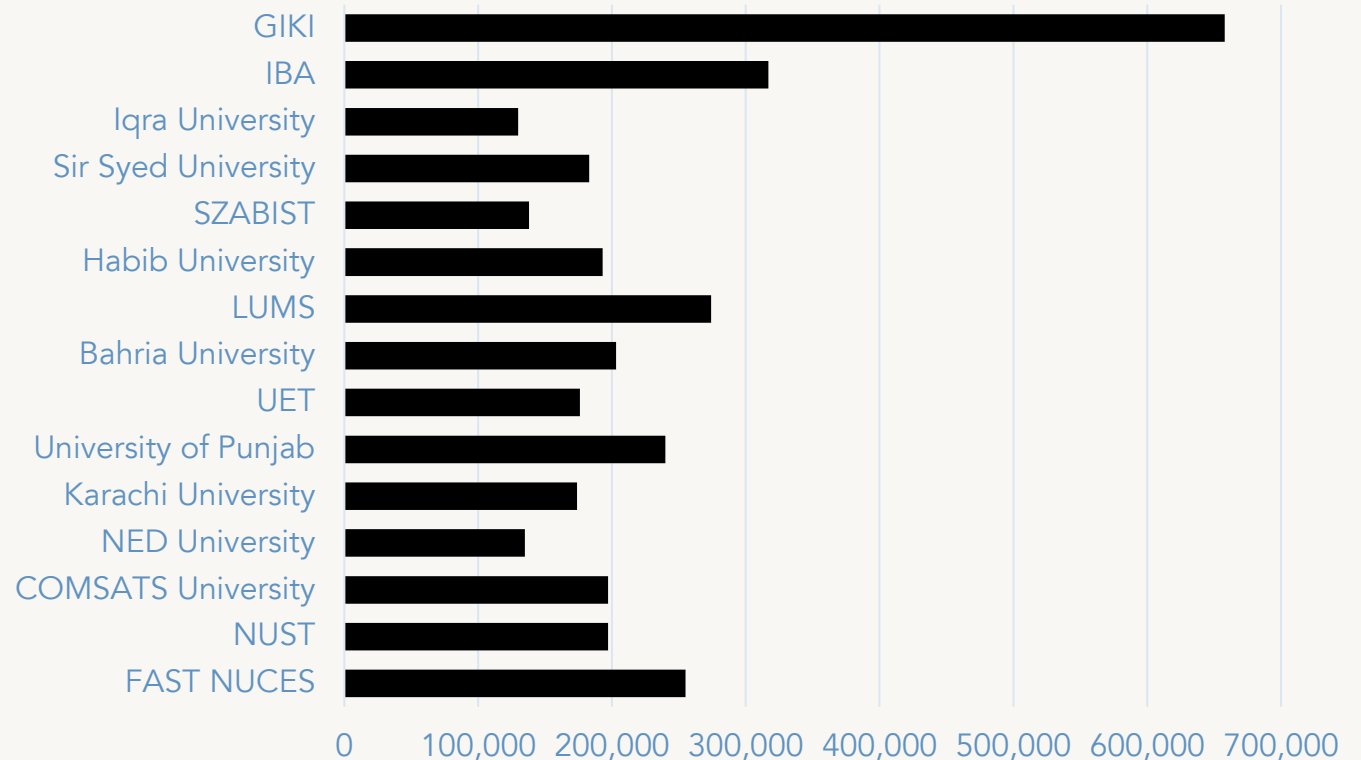
We took a look at how much alumni from different universities are making, and here's what we found:

Graduates from GIKI, IBA, LUMS, and FAST are the highest paid according to the data collected.

Not too far behind, are alumni from COMSATS, NUST, and Habib University. Their earnings are a bit lower than the first group, but still significantly higher than others.

Where you study still seems to matter when it comes to the size of the paycheck.

Average monthly salaries based on university of graduation

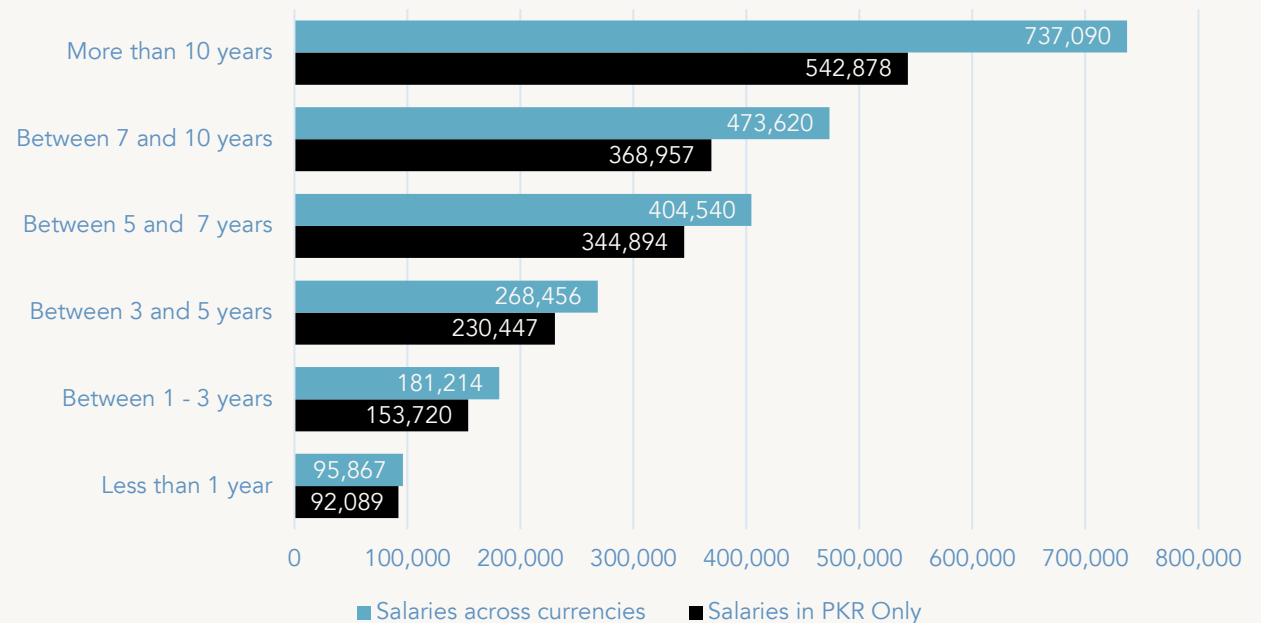


RELATION: AVERAGE MONTHLY SALARY AND CURRENCY

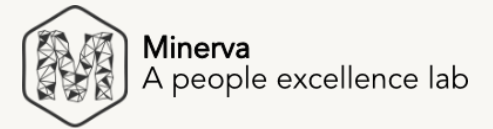
In this report, our analytical spotlight is on respondents whose earnings are denominated in PKR, as they represent a substantial 90% of our survey participants.

Nonetheless, it's crucial for employers vying for premier talent to note that competitive salary offerings aligned with global standards might be necessary. A cursory glance at the adjacent chart reveals a significant upward shift in average salary figures when we include respondents with earnings in non-PKR currencies.

Average Monthly Salaries of Software Engineers in Pakistan:
PKR Earnings vs. All Currency Earnings



AVERAGE MONTHLY SALARY ACROSS ALL CURRENCY DENOMINATIONS



AVERAGE MONTHLY SALARY FOR ALL RESPONDENTS						
Years of experience	Less than 1 year	1 – 3 years	Between 3 - 5 years	5 – 7 years	7 – 10 years	More than 10 years
Category						
Software Engineering	96,000	175,000	254,000	395,000	382,000	770,000
Software Architecture	-	80,000	162,000	471,000	618,000	741,000
Cloud/DevOps	96,000	150,000	244,000	569,000	1,161,000	591,000
Data Engineering	97,000	198,000	384,000	398,000	556,000	490,000

AVERAGE MONTHLY SALARY FOR RESPONDENTS EARNING IN PKR						
Years of experience	Less than 1 year	1 – 3 years	Between 3 - 5 years	5 – 7 years	7 – 10 years*	More than 10 years*
Category						
Software Engineering	92,000	154,000	254,000	327,000	331,000	472,000
Software Architecture	-	80,000	162,000	471,000	618,000	741,000
Cloud/DevOps	96,000	134,000	244,000	569,000	550,000	388,000
Data Engineering	97,000	167,000	384,000	354,000	250,000	490,000

CURIOSITY INSIGHTS

'Curiosity Insights' from Our Survey

As you venture into the following section, we invite you to approach these findings with a sense of exploration and interest. This segment is a collection of intriguing findings from our survey. These insights are shared not as definitive conclusions but as thought-provoking data points that may ignite debate or pique curiosity.

While all of the analysis is backed by collected data, it's crucial to remember that they should not be interpreted in isolation. While they may spark discussions or offer new perspectives, they should be viewed as points of interest rather than conclusive evidence. They are pieces of a larger puzzle, offering perspectives that might need to be weighed against other factors for a full understanding.

This part of our report is for those who enjoy unearthing unique patterns and trends in data. So, read on, explore, and enjoy these bits of information, keeping in mind their exploratory and non-conclusive nature.

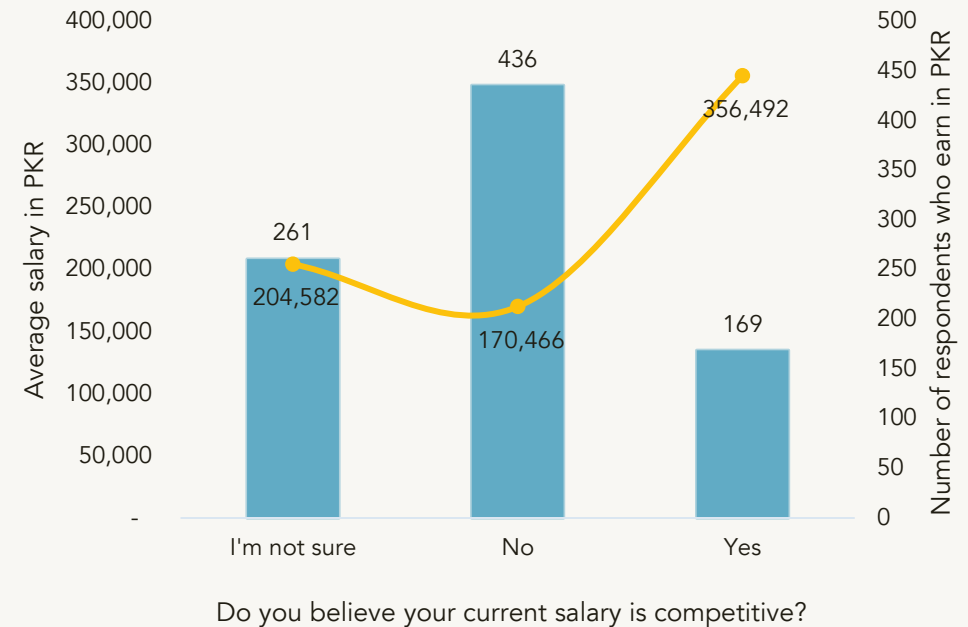
SALARY COMPETITIVENESS

We asked respondents if they believed their salaries were competitive.

50% of all respondents believe their current salaries don't stack up in the competitive landscape, compared to only 20% who believe their salaries are competitive. The remaining 30% are unsure about the competitiveness of their pay.

We further explored if these perceptions differed between those paid in PKR versus USD.

Among those earning in PKR, 17% consider their salaries competitive, typically earning twice as much as those who don't. Similarly, 45% of those paid in USD see their salaries as competitive, earning on average four times more than their less confident counterparts.



JOB HOPPING

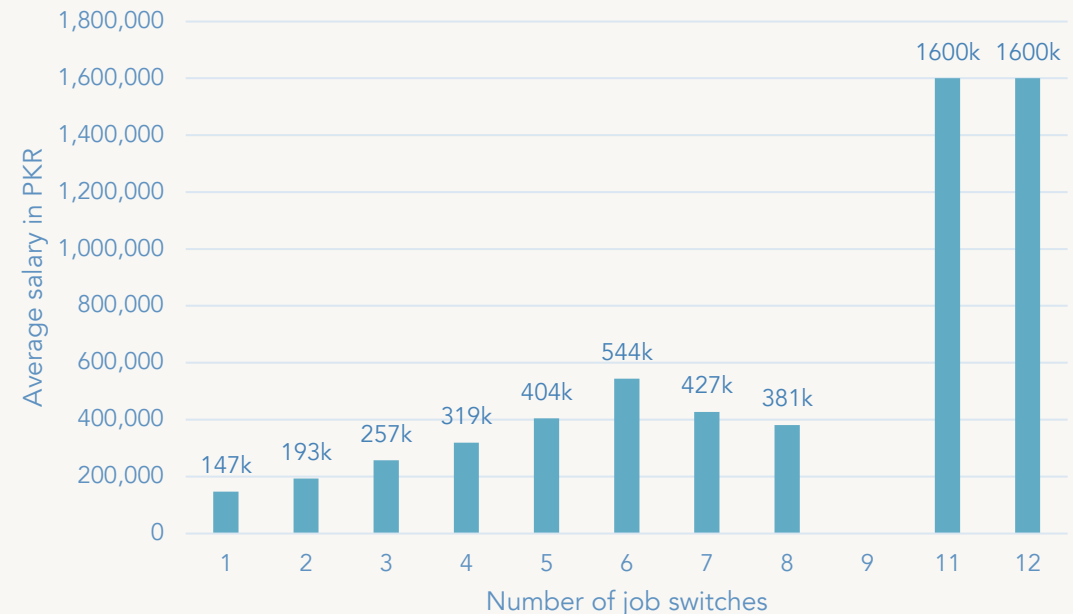
Our anticipation was high for this analysis, especially with the buzz around frequent job-hopping. Initial impressions suggest a positive link between the frequency of job switches and the average salary. Yet, a deeper dive reveals that years of experience play a significant role in this equation.

For instance, every respondent reporting 11 or 12 job changes had over a decade of experience. Similarly, a large portion—75% with 8 switches and 80% with 7 switches—also crossed the 10-year experience threshold.

Curiosity led us further. When focusing on respondents with over 10 years of experience, we discovered a striking 256% salary difference between individuals with a single job switch versus those with 12 switches. Among professionals with 7 to 10 years of experience, the maximum recorded job switches were six, showcasing a remarkable 341% salary difference between those with one switch and those with six.

These findings, while not conclusive, offer intriguing food for thought into the complexities of career mobility and salary. We thought we'd share just for the overly-curious.

Average Salaries based on number of organizations switched



FIRST-TIME SALARIES AND GROWTH

We were curious to see how salaries have changed over time. We asked survey respondents about their first-time earnings in a full-time role. Here's what the data told us:

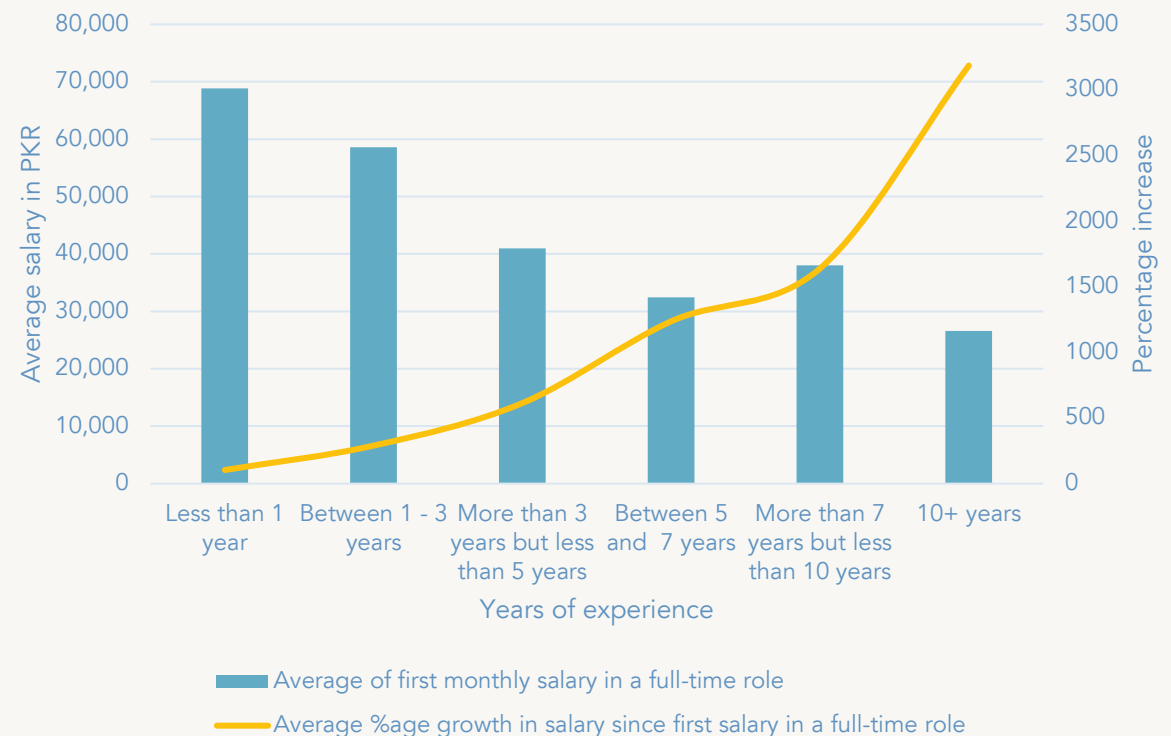
Professionals with less than a year of experience are launching their careers at an average salary of PKR 69,000. In contrast, those who have now surpassed three years in the workforce had a lower starting salary of PKR 41,000, indicating a rise in entry-level salaries over the years (as expected, given changing circumstances).

Among the more seasoned professionals, with over a decade of experience, there has been a remarkable salary progression. Their earnings have seen an exponential increase, averaging a growth rate of over 3,000% since their early career days.

These findings, while not surprising, shed light on the substantial salary growth potential over the course of a professional's career and underscore the upward trend in starting salaries for newcomers in the industry.

Good or bad? Interesting or not? We'll leave it to you to decide.

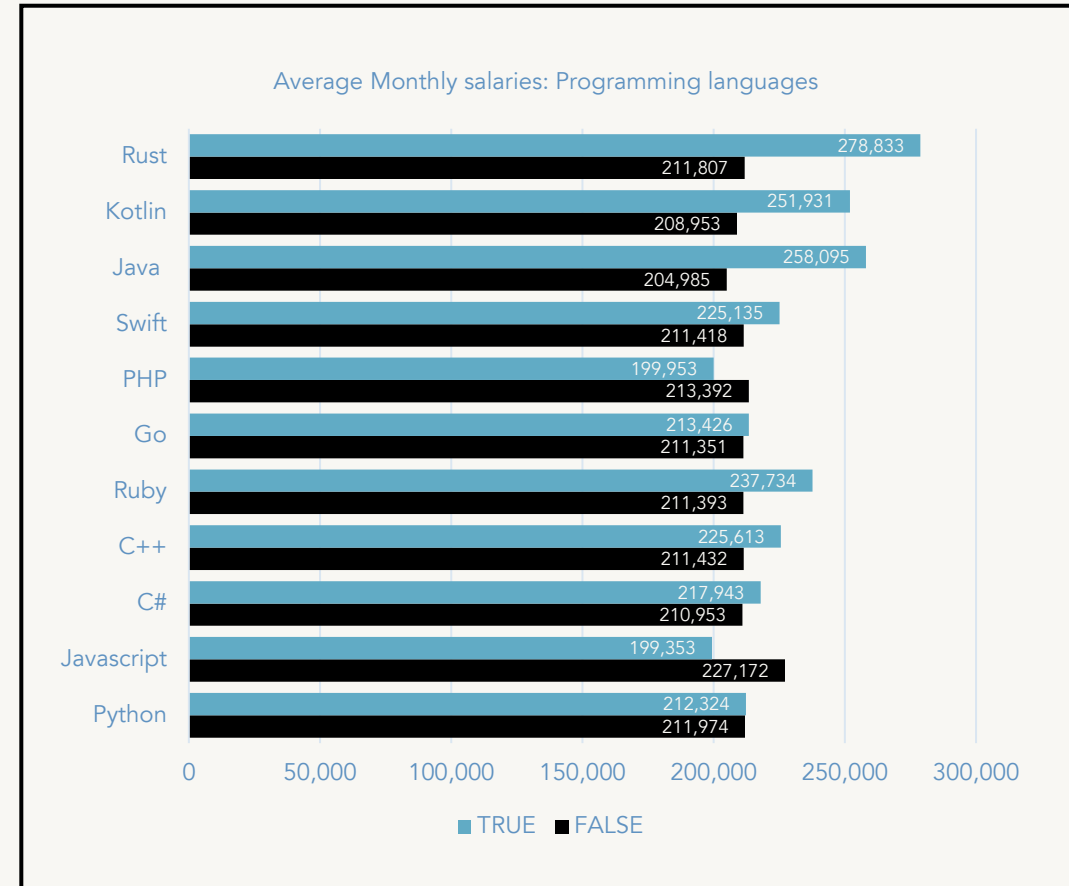
Average monthly salary in the first full-time job



TECHNOLOGIES

We also wanted to see if experience with certain technologies was valued higher than others so we compared the average monthly salaries of those who had listed certain technologies vs those who hadn't.

We'll leave a range of graphs over the next few slides. The technologies in each graph are based on broad categorisations of all the technologies listed by respondents.



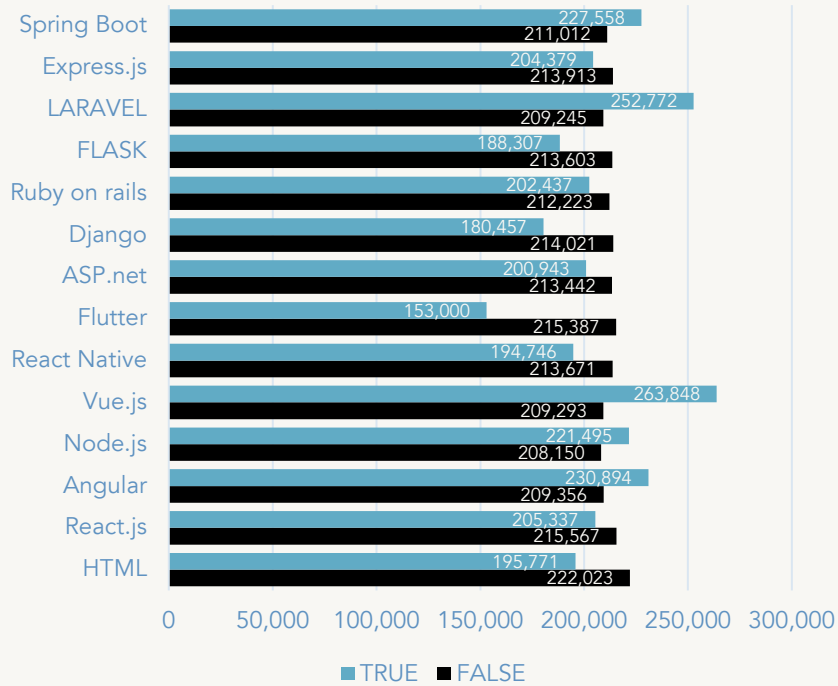
TECHNOLOGIES

Continued

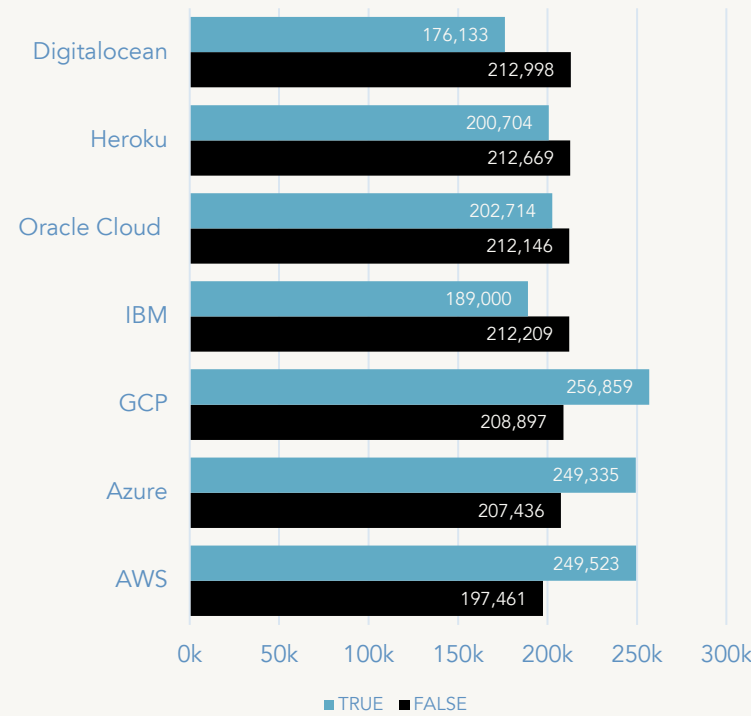


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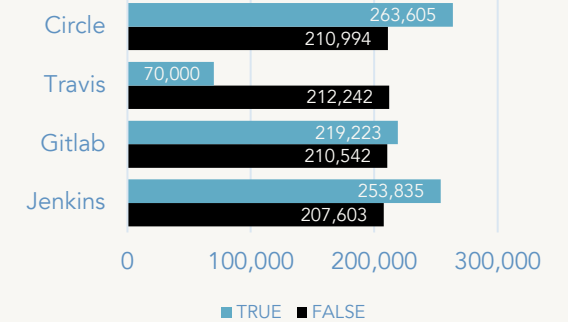
Average monthly salary: Web Development Frameworks and Libraries.



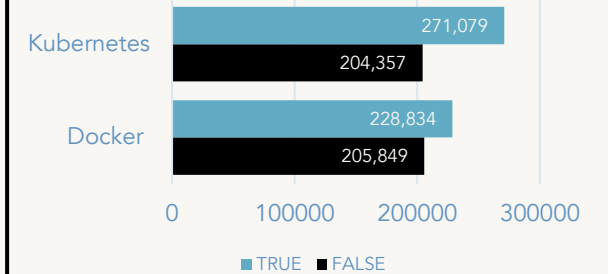
Average monthly salary - Cloud Computing Platforms



Average monthly salary - CI/CD



Average monthly salary - Containerisation and Orchestration Tools

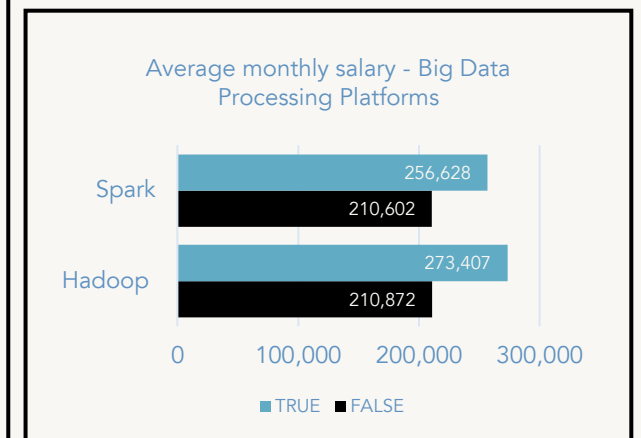
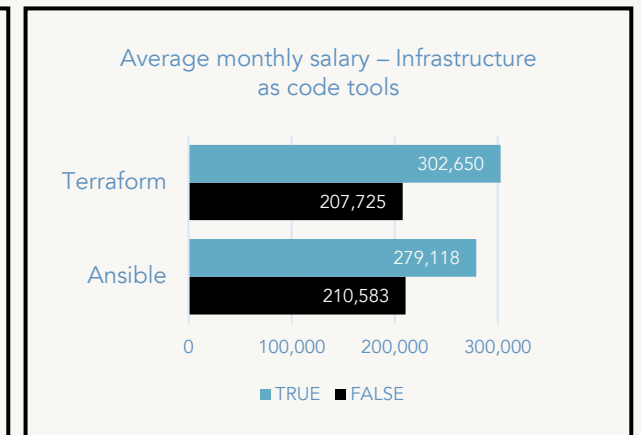
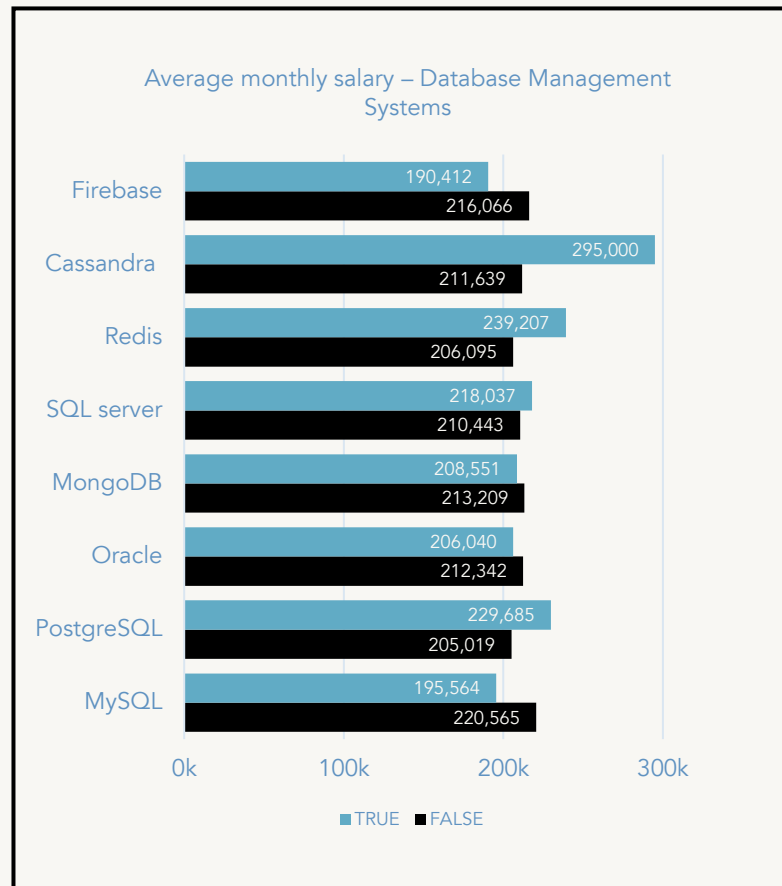
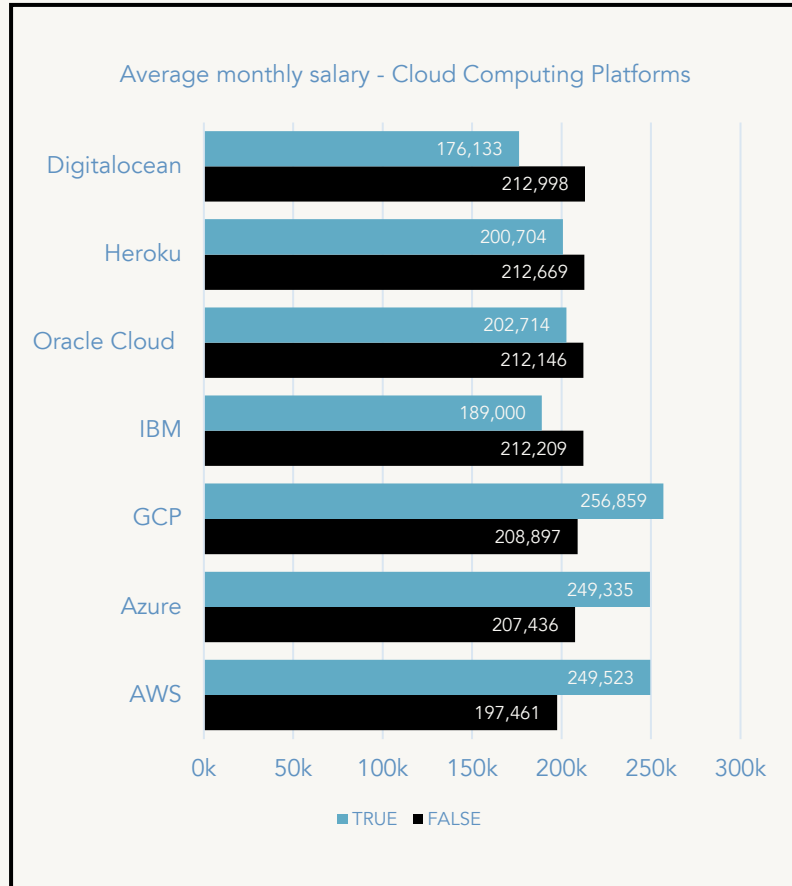


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QUESTIONS? FEEDBACK?

We are dying to hear what you thought about our first attempt at a salary survey.

Have unanswered questions? Ask us – we may be able to answer your questions from additional insights in our data bank. And if we can't yet, we'll make sure to keep in mind for the next iteration of the report.

Think we missed the mark and could do better? Share your feedback and suggestions at sana.k@minervites.org. We may not be able to respond to every query but will, without doubt, be noting each feedback as we prepare for the next survey.



**Share.
Tweet.
Talk.**
#knowyoursalarypk

Be part of the movement towards salary transparency!

Help us spread the word – together, a salary transparent world isn't too far away.

WHAT'S NEXT?

We have some exciting work in the pipeline:

- A report on the Gen Z and Millennial Gap
- A salary survey report for designers in Pakistan
- An analysis of the 'women in leadership' landscape in Pakistan
- A report on the 'Return to work' landscape in Pakistan focused on women returning to work after career breaks

We are also looking to speak to with individuals and organisations who:

- Aim to achieve salary transparency in the next 5 years and are in the process of overcoming the challenges that come with it
- Are interested in supporting a returnship program or launching their own to include more women in their talent pipeline
- Want to collaborate on interesting ideas that revolve around the people and talent space: an exciting research you want to co-author, a new project to enable a high performing culture, rethinking your organizational design, or just about anything.

If you want to discuss any of the above, reach out to Sana Khalid, at sana.k@minervites.org



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KNOW YOUR SALARY