The Analytical Report

Summaries Citations & references Structure Tables & figures -UX Headings **The Analytical Report** Recommendations Lists Critical analysis Fact signals

Recommendations

The Analytical Report

Your main value

Your argument(s) for next steps

Your opinion(s)



Recommendations

#### Structure

**Executive summary** 

Context/Background

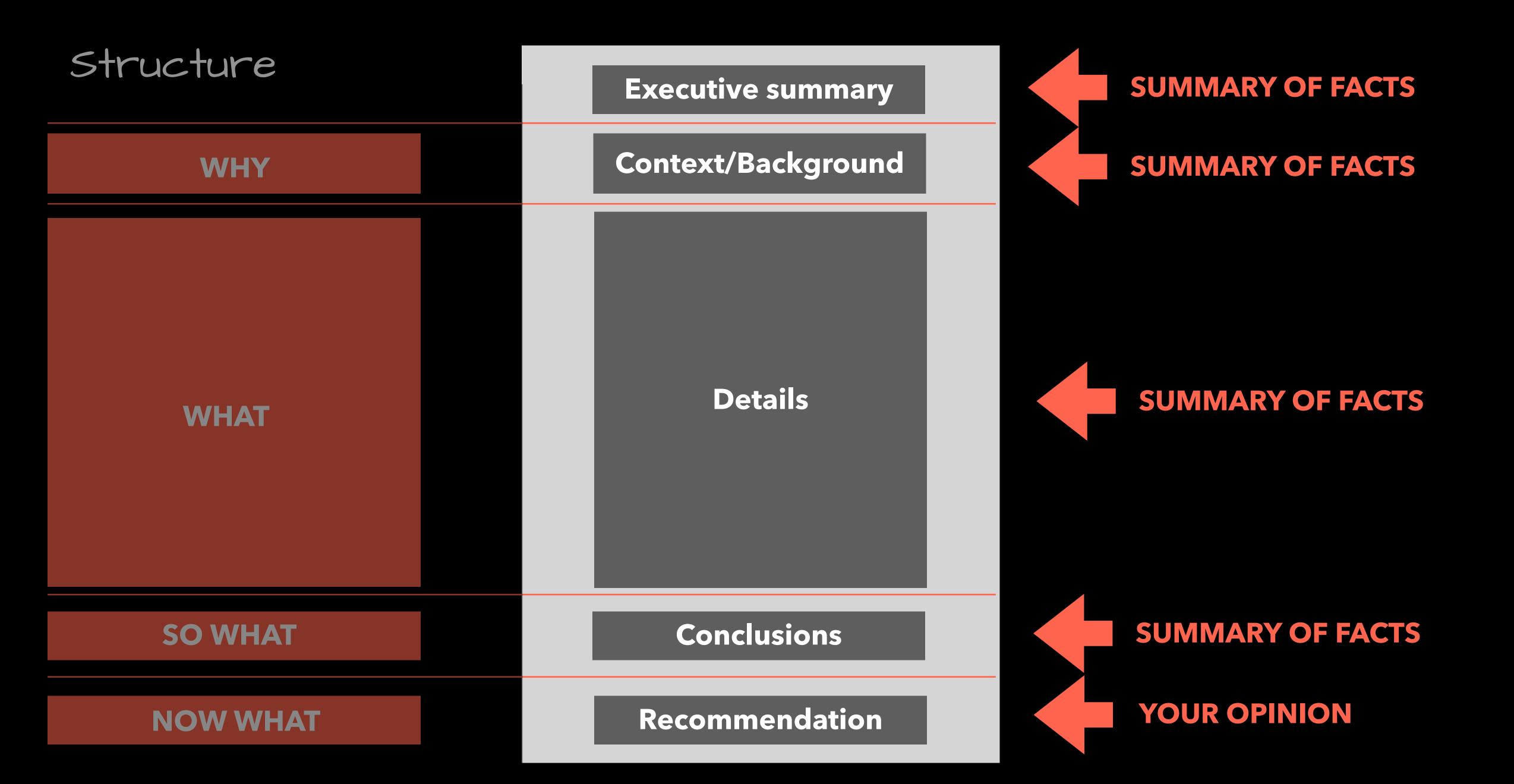
Details

Conclusions

Recommendation

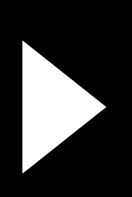
Structure	Executive summary
WHY	Context/Background
WHAT	Details
SO WHAT	Conclusions
NOW WHAT	Recommendation



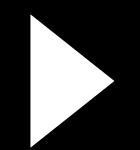


## Summaries

Synthesize dense information



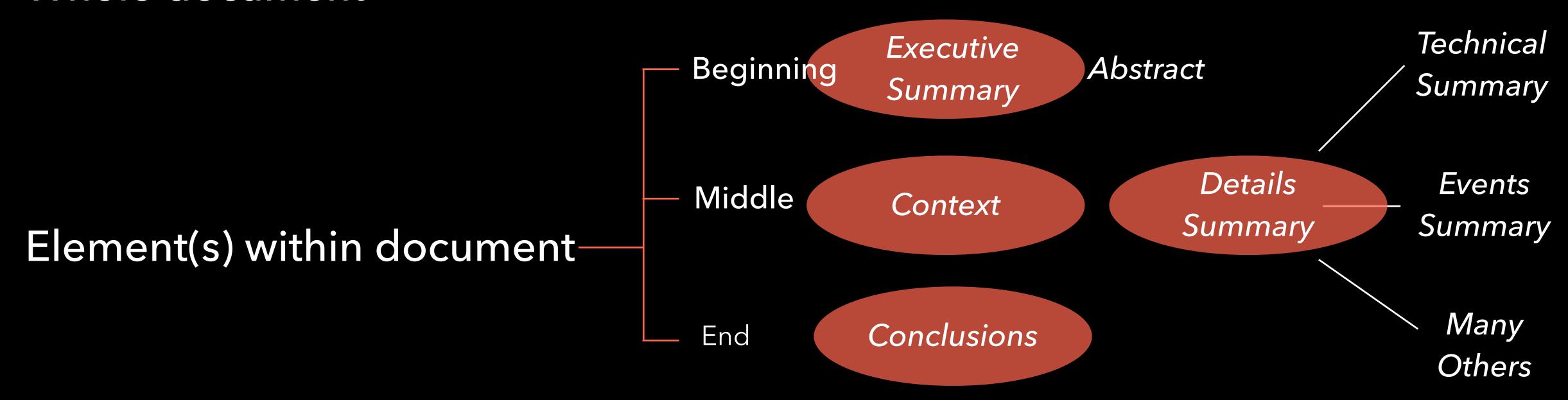
Make content simpler to understand



Save time

#### Summaries

#### Whole document



### Executive summary

Condense whole report

Mention key points only

Decide to read more or not

Synthesize dense information





Saves time

### Executive summary

#### CONTEXT

Johnson Engineering was retained by Pinnacle Manufacturing to correct production gaps in the smart meter production line and to recommend improvements in the production efficiency overall.

#### **DETAILS**

Johnson conducted its investigation by observation and interviews on site and by studying metrics and process documentation provided by Pinnacle.

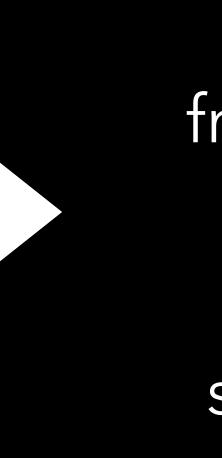
#### RECOMENDATIONS

The problem with the production gaps can best be resolved by establishing a regular and firm supply schedule for the preproduction team. Other recommendations include purchasing higher-quality tools to reduce wastage; reducing staff turnover to improve productivity and reduce training costs; and documenting all processes within the company to ensure consistency, to improve quality, and to enable iso certification at a later date.

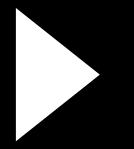
Is this factual, essential information only?
Is it self-contained? (needs no further explanation)
Is it accurate compared to original?
Is there no personal evaluation/opinion?
Are the words in the simplest form for the intended receiver(s)?

## Conclusions

Conclusions are summaries too



Collects
findings
from facts in
the
Detail
summaries
(Only)



Facts about facts

#### Conclusions

Simple, declarative statements of facts

Often (not always)

a list

May be supported by a table

This examination of choices established the following:

- Three independent studies give <Product 3> a top score for UI.
- All three products appear to be easy to use. There are favourable customer comments about each one regarding speed of learning and ease of integration with existing products.
- < Product 1> is the most recent on the market of the three. It also has the fewest reviews of the three.
- Each product uses a different method for product support.

Is it treated as a summary - accurate, concise, no personal statements?
Does it collect from the preceding material, adding no new information?
Does it provide critical analysis?
Is it written in plain language, using declarative sentences?

## Recommendations

#### Conclusions

Findings from the **Details** 

Facts

## Recommendations

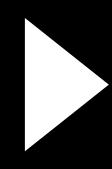
Actions from the Conclusions

Opinions

Argument for the best choice based on factual evidence in the report



Why/how it fits the criteria given



May suggest next steps to be taken

## Next steps written as action statements

- Establish a regular schedule to deliver 50 pre-dimensioned sheet metal plates to the cutting press at the stroke of every hour. If this schedule is maintained, the preproduction department will not have to communicate with the production line about this issue and the cutting press will not run out of supplies.
- Conduct interviews with the staff or engage a personnel consultant to determine the causes of the high staff turnover. Untrained and inexperienced staff is causing a considerable number of errors and wastage of materials.
- Purchase higher-quality templates and dyes to save money in the long run. Some recommendations with serial numbers are found in Appendix C: Comparative Tool Performance.

□ Are you convinced these actions should take place?□ Is each one based on findings in the report?□ Will the reader see the logical connection to the findings?

Are they written in plain language, using declarative sentences?

#### **STRUCTURE**

Reports are organized in distinct sections, each with a specific purpose.

#### **SUMMARIES**

Summaries synthesize facts from many sources.

#### CONCLUSIONS

Conclusions are summaries that are facts about facts.

#### RECOMMENDATIONS

Recommendations argue for the next steps to be taken.

#### THE BIG IDEA

Analytical reports present arguments in favour of actions, supported by a critical analysis of facts.

## Critical analysis

## Needs

The criteria identified and itemized

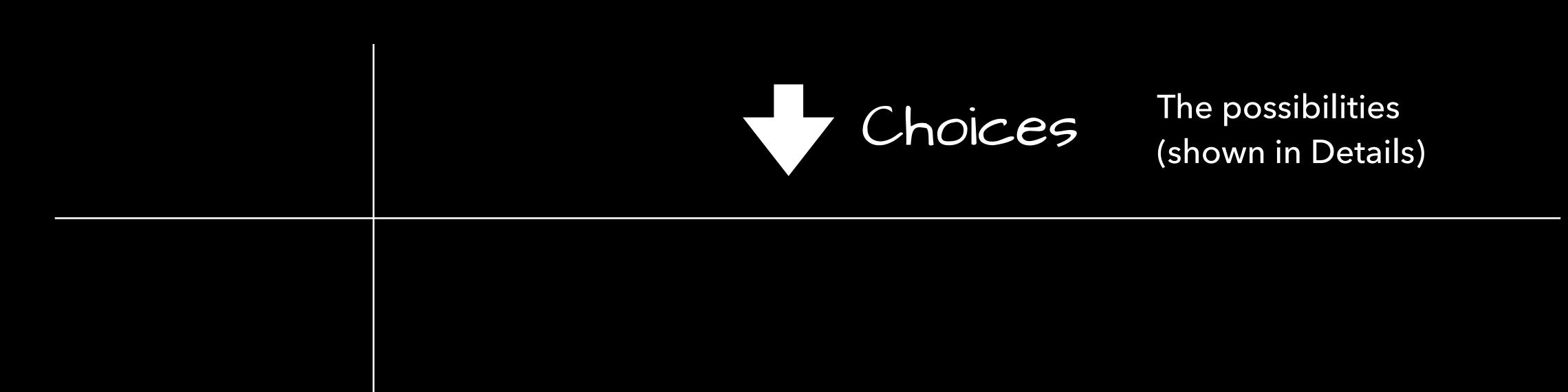
**CONTEXT SECTION** 

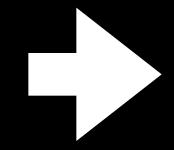
### Choices

The possibilities identified and itemized

**DETAILS SECTION** 

### Making comparisons





Needs

The criteria (shown in Context)

## Conclusions

Facts about the facts (already stated above)

### Making comparisons

# Simple comparisons Critical comparisons

- > Opinion
- > Ranking
- > Strengths
- > Weighted strengths

## Simple comparison Reader's choice

### Needs

S	
U	

	Integration	UI	Training	Support	Availability
Product 1	MS Office Apple software	Mostly menus & select boxes	Online webinars	24/7 live help desk	Website
Product 2	MS Office Apple software Wordpress Wix	Mostly menus & select boxes	>30 reference articles online	Chatbot Mon-Fri helpline	Download
Product 3					
Product 4					

## Critical comparison By opinion

Table 1: Suitability of the four suppliers reviewed for how they meet certain criteria\*



<sup>\*</sup> criteria for "best" were determined by <describe process for determining>

## Critical comparison By ranking

Table 1: Rankings of the four suppliers ranked for how they meet certain criteria\*

	Integration	Ease of UI	Training	Support	Availability	SCORE
Rankings	1-5	1-5	1-5	1-5	1-5	Lowest is best
Supplier 1	3	1	3	2	2	11
Supplier 2	1	2	4	1	4	12
Supplier 3	2	3	1	4	1	11
Supplier 4	4	4	2	3	3	16

<sup>\*</sup> ranks were determined by <describe process for determining>

## Critical comparison By strengths

Table 1: Feature strengths of the four suppliers in our criteria areas\*

	Integration	Ease of UI	Training	Support	Availability	SCORE
Strengths	1-5	1-5	1-5	1-5	1-5	Highest is best
Supplier 1	3	5	2	2	3	15
Supplier 2	5	2	1	5	1	14
Supplier 3	3	2	5	1	5	16
Supplier 4	1	1	4	3	2	11

<sup>\*</sup> strengths were determined by <describe process for determining>

## Critical comparison By weighting

Table 1: Weighted strengths of the four suppliers in our criteria areas (higher is better)\*

	Integration	Ease of UI	Training	Support	Availability	SCORE
Weighting	30	25	20	15	10	
Strengths	1-5	1-5	1-5	1-5	1-5	Highest is best
Supplier 1	3	5	2	2	3	315
Supplier 2	5	2	1	5	1	305
Supplier 3	3	2	5	1	5	305
Supplier 4	1	1	4	3	2	200

<sup>\*</sup> weights & strengths were determined by <describe process for determining>

1

Measure facts against stated criteria

2

Applied same process to each item equally

3

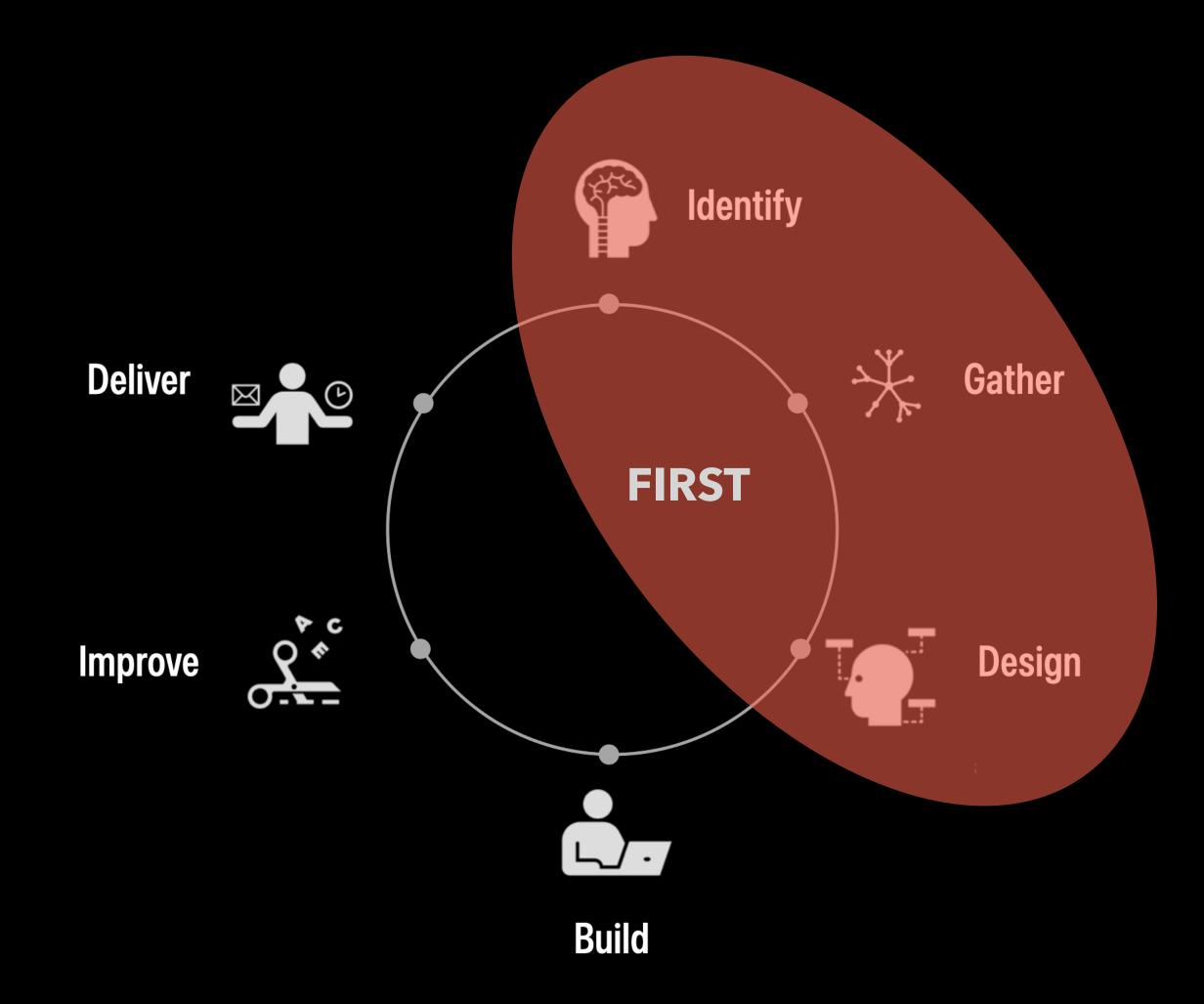
Ensure someone else would achieve same outcome if following process

Use the

Communication

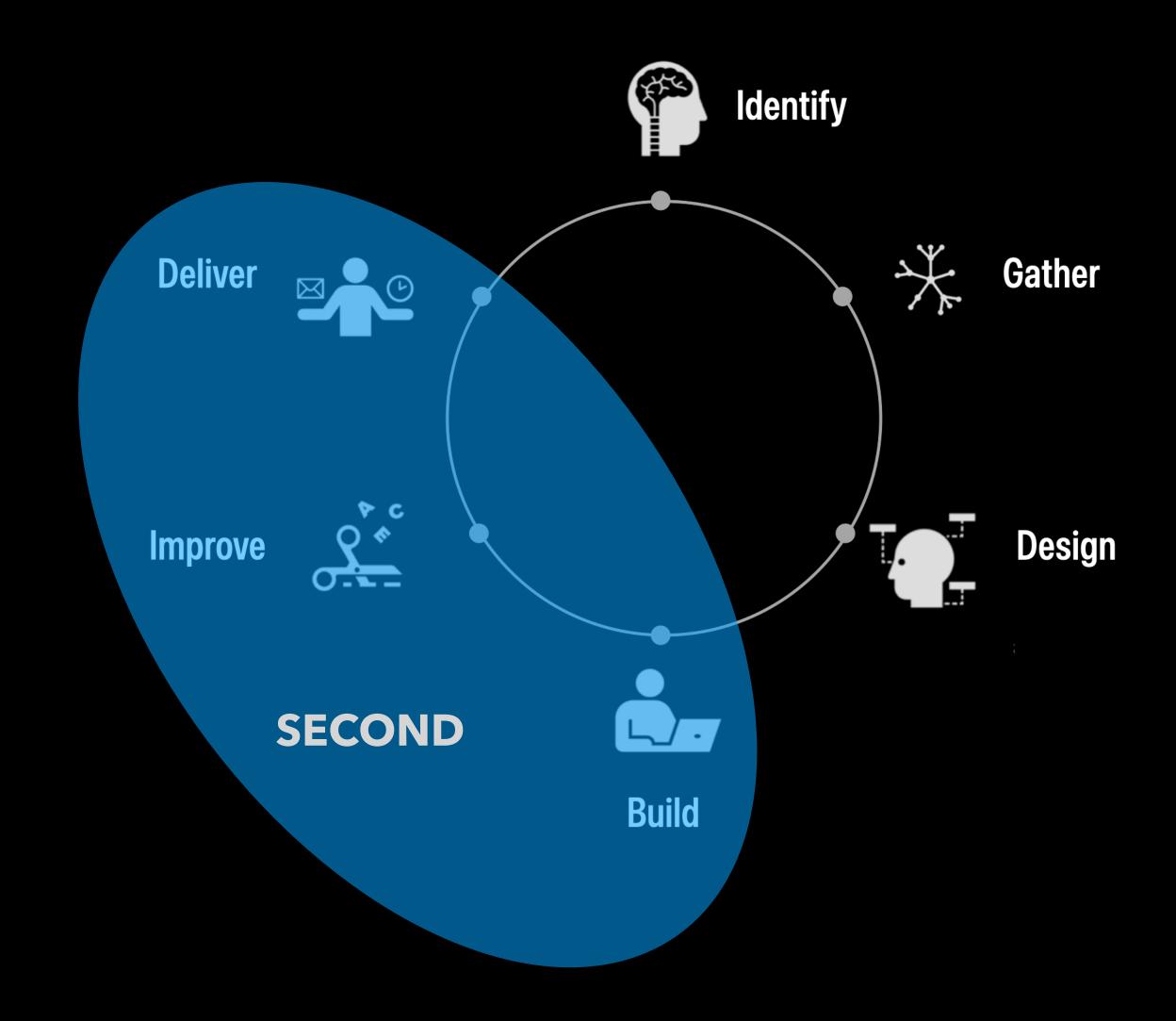
Development

Lifecycle



Use the

Communication Development Lifecycle



# Building the analysis

5 Executive summary

What are the most important facts in this report?

(Write last)

1 Context/Background

What's the decision to be made? (the purpose)

What background is helpful to know?

What are the choices?

What are the criteria to decide?

2 Details

What are the most reliable facts about the choices to consider?

3 Conclusion

How do the facts compare to each other? How do the facts compare to the criteria?

4 Recommendation

What should be done?

#### THE BIG IDEA

Conclusions and recommendations are the greatest value analytical reports provide. Critical analysis is the greatest value you provide.

Tables & figures

Headings

Fact signals

Giving Your
Report
Superpowers

Citations & references

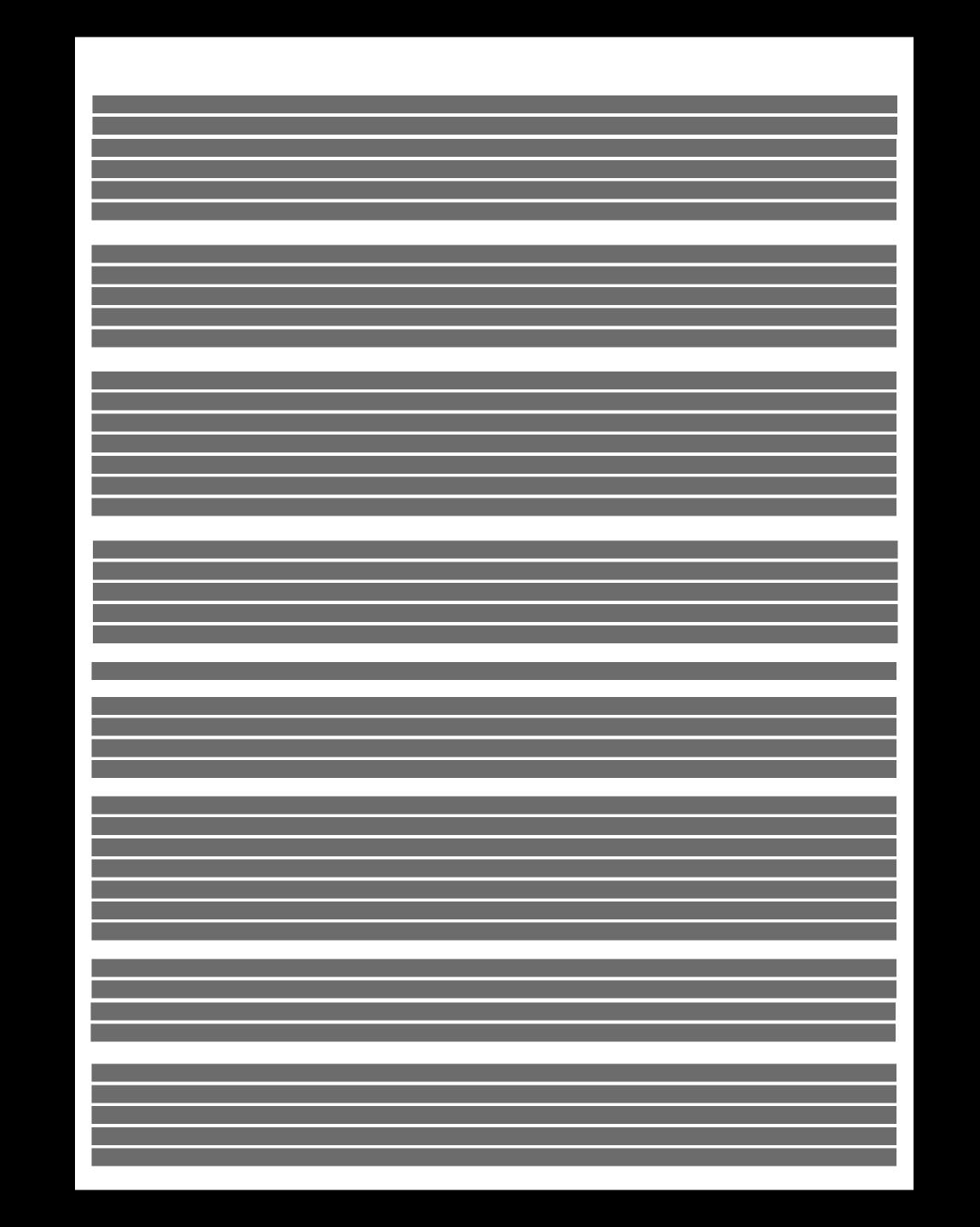
UX

Lists

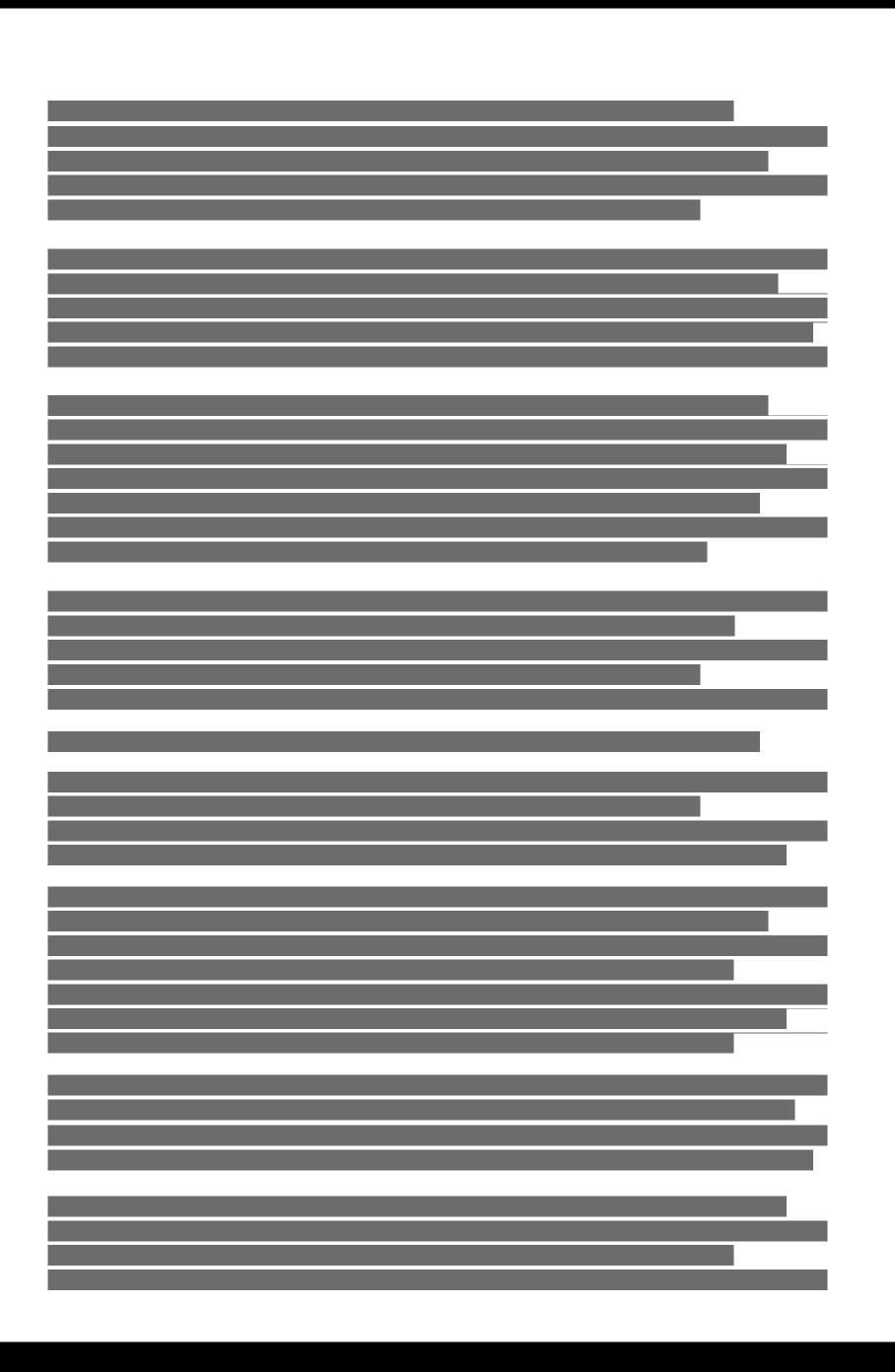


Keep paragraphs no more than 7 lines (mostly)

Keep sentences <25 - 30 words (mostly)



Wider margins & flush left text



# Headings for scannability

		_
		_
		_
3. Details		

Treat headings like a high-level outline



Save lists for special items (avoid overuse)

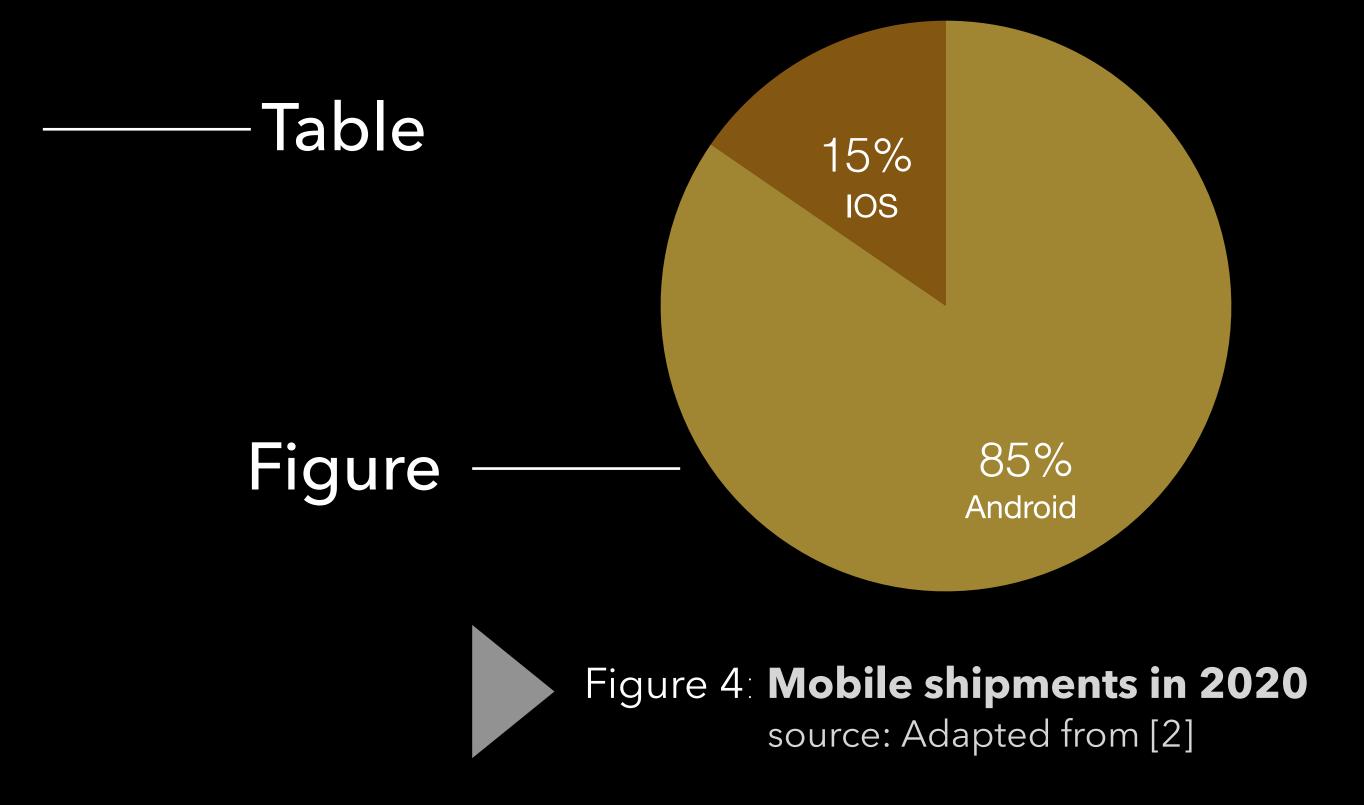


# Anchoring Tables and Figures

Chart Graphic Table lmage Schematic Illustration Flow chart Pie chart Figure Bargraph Any illustration that is Org chart not a table is a figure Bubble chart Etc.

Table 1: **Mobile shipments 2018-2020.** From [2]

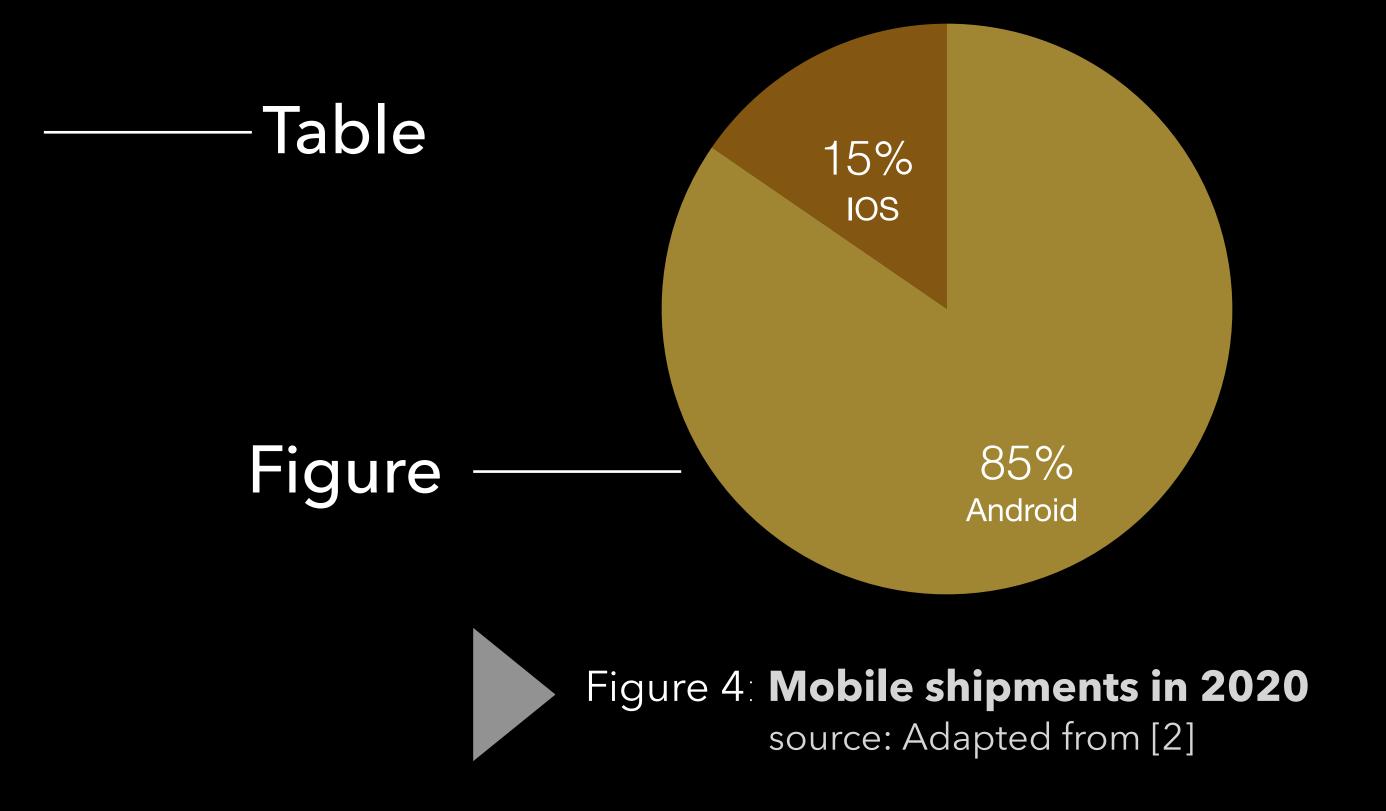
Year	2018	2019	2020
Android	85.1%	86.1%	85%
IOS	14.9%	13.9%	15%
Others	0%	0%	0%
TOTAL	100%	100%	100%



Tables & figures are numbered in the order they appear in the document Use "adapted from" when showing data/content from others in a new way

Table 1: Mobile shipments 2018-2020. From [2]

Year	2018	2019	2020
Android	85.1%	86.1%	85%
IOS	14.9%	13.9%	15%
Others	0%	0%	0%
TOTAL	100%	100%	100%



# Labels explain the story in the illustration

# Labels For Tables Go On Top



Anchor each illustration in the text, using bold type; e.g., (see Figure 4)

Use the illustration to add information

Text

Illustration

Android systems continue to dominate mobile shipments with an 85% share over IOS at 15% (see **Figure 4**).

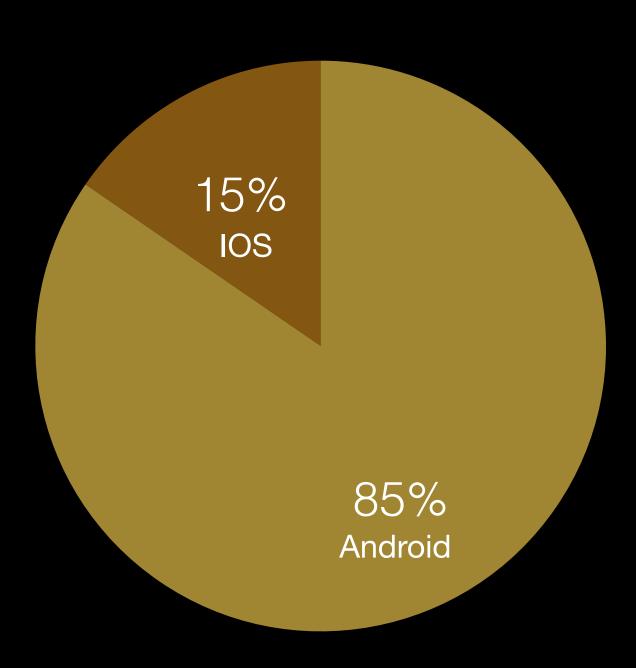


Figure 4: **Mobile shipments in 2020** source: Adapted from [2]

Text

Android systems continue to dominate mobile shipments with an 85% share over IOS at 15% (see **Figure 4**).

Android systems continue to dominate the market (see **Figure 4**).

## Illustration

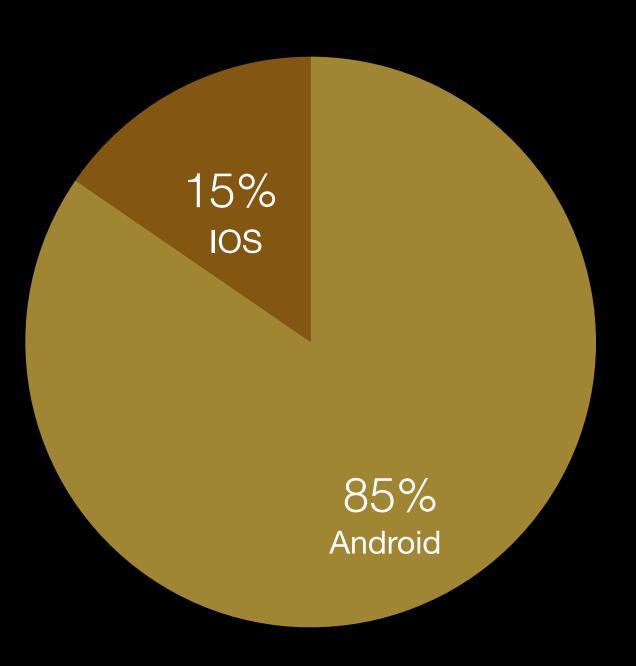


Figure 4: **Mobile shipments in 2020** source: Adapted from [2]

Text

Android systems continue to dominate mobile shipments with an 85% share over IOS at 15% (see **Figure 4**).

Android systems continue to dominate the market (see **Figure 4**).

### Illustration

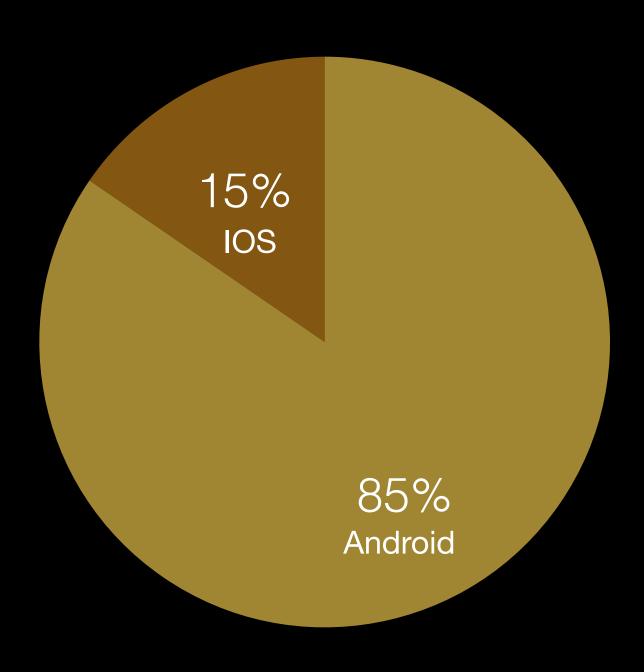


Figure 4: **Mobile shipments in 2020** source: Adapted from [2]

Harmony

In lists

#### **SENTENCE BEGINS** The design-build contractor shall

- provide written notice to property owners informing them of the extent and type of work that will be performed on their property,
- meet with owners to explain what work will take place on their property,
- **obtain** written permission of private property owners prior to proceeding with work on their property;
- **obtain** all permits and approvals from municipal, provincial, and federal authorities, when and where required;
- **verify** the location of all buried and overhead utilities prior to commencement of subsurface investigations;
- notify the city of the dates and times that field investigations will be carried out; and
- **provide** copies of all reports to the city as soon as they are available.







# Trust signals

A 30-country survey found 30% of adults say most people can be trusted.

SUSPECT

A 30-country survey by Ipsos found 30% of adults say most people can be trusted.

**ATTRIBUTED** 

A 30-country survey found 30% of adults say most people can be trusted [1].

CITED



[1] N. Boyon, "30% of adults say most people can be trusted," *Ipsos*, Mar 24, 2022. [Online]. Available: https://www.ipsos.com/en-ca/news-polls/interpersonal-trust-across-the-world [Accessed: Sep 23, 2022]

REFERENCED

# Quoting - two lines or less

#### Source

Wood is a natural composite of cellulose fibres, which are strong in tension, and a matrix of lignin, which resists compression. This is the same pairing of resistance to forces as in the combination of concrete (compression) and steel reinforcement (tension) and makes wood incredibly strong; in fact, pound for pound, wood is considerably stronger than steel.

Quote

"Pound for pound, wood is considerably stronger than steel." [2, p. 169]

# Quoting - > two lines

Short quote in a sentence, use quotation marks

Quote longer than two lines indent 0.5, no quotation marks **"Pound for pound, wood is considerably stronger than steel"** [4, p. 35]. though the strength requirements of most structural members in this type of construction precludes the use of stick framing in structures more than six storeys tall. However,

Austria and Germany are experimenting with office and apartment structures up to 1 storeys tall, using advanced glu-lam technology. Essentially massed wood post-and-beam structures that rely on new advances in glue technology to give these members considerable additional strength over standard glu-lams currently in use [2, p. 170].

The Brock Commons student residence at the University of British Columbia, for instance, is an 18-storey ...

# Citations

Citation as a system

CITATION - in-text signal of source other than you

REFERENCE - the source you cited

REFERENCE LIST - list of all sources in the document

BIBLIOGRAPHY - list of all sources considered (in the document or not)

# Styles of citation

#### By name

Some say that taxes on the wealthy must be lowered to stimulate trickle-down benefits (Jameson, 2018) while others say that it is the middle-class consumer who requires the greatest tax breaks in order to stimulate consumption, a sort of trickle-up benefit (Chan, 2019)

#### By number

Most of the Western World's nuclear power stations are already over 30 years old [2]. This is part of the problem with . . .

# IEEE style

In order from [1], by source

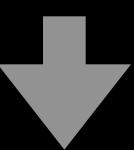
Same source keeps same number

Page number where possible



# IEEE reference style varies for different sources

# For book

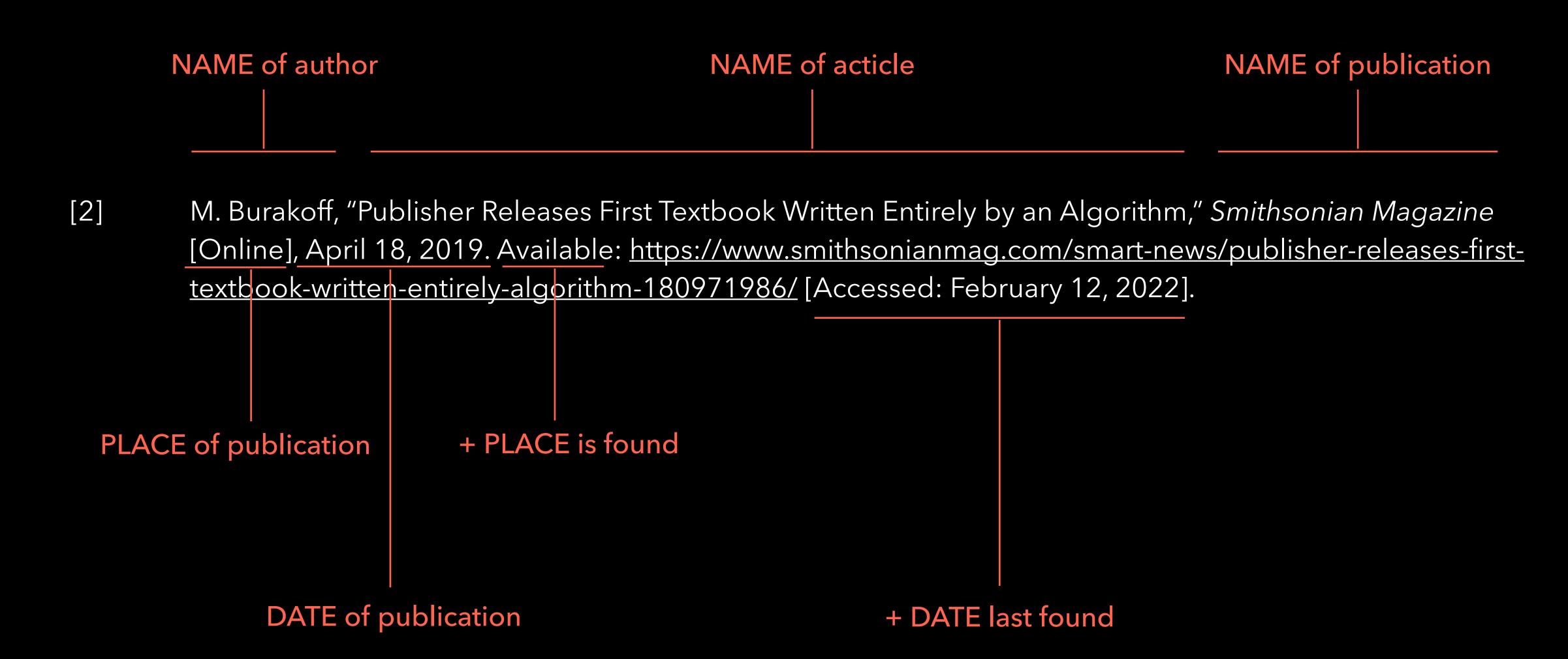


- [1] B. Writer, Lithium-Ion Batteries A Machine Generated Summary of Current Research. Heidelberg, Germany: Springer Nature, 2019.
- [2] M. Burakoff, "Publisher Releases First Textbook Written Entirely by an Algorithm," *Smithsonian Magazine*. [Online], April 18, 2019. Available: <a href="https://www.smithsonianmag.com/smart-news/publisher-releases-first-textbook-written-entirely-algorithm-180971986/">https://www.smithsonianmag.com/smart-news/publisher-releases-first-textbook-written-entirely-algorithm-180971986/</a> [Accessed: February 12, 2022]



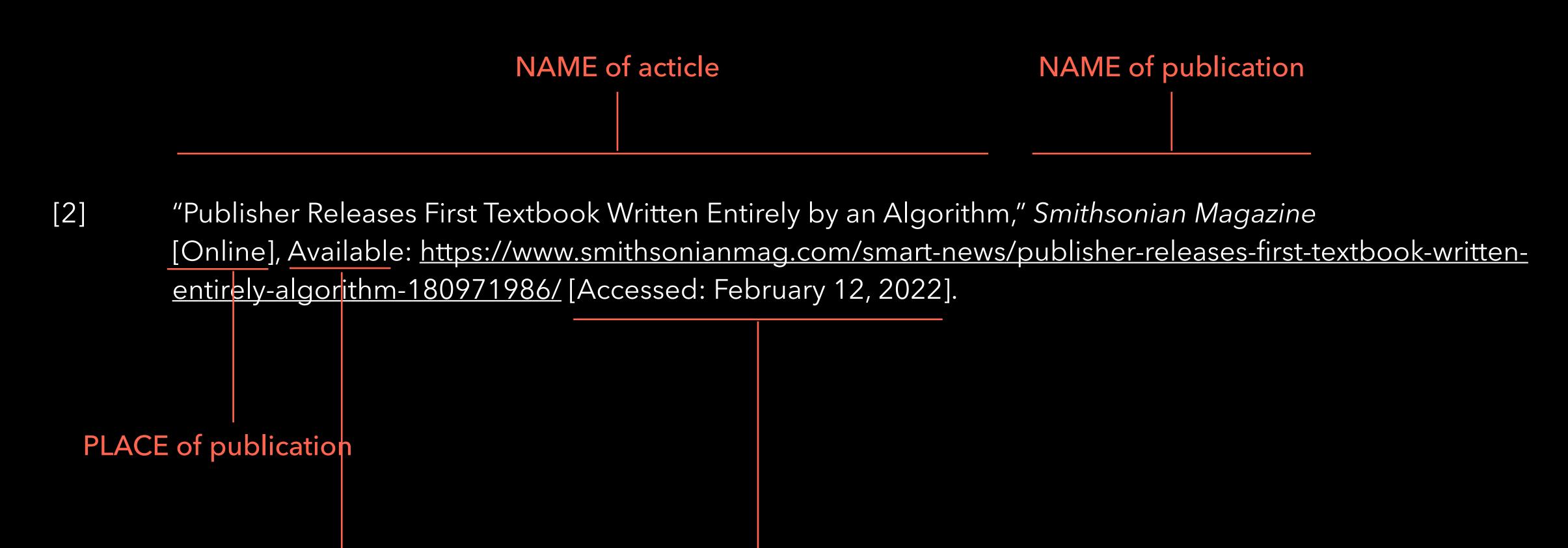
For web article

# IEEE reference style - Web article



# IEEE reference style - web article - using what's given

+ PLACE of storage



+ DATE last found

## Beware

Format is precise for each style | Check requirements of the receiver

Use is precise within each style | Check examples (see handout)

Autogeneration software doesn't always output required format

# IEEE style

### See:

# Handouts for 9 Mar

## 6.2 Setting Up A Reference List - Sample Entries

\_\_\_\_

Below are som academic and to ther document

\* IEEE Reference
follow the stan
the Digital Obj
the source is av
last.

## Examples o

**Articles from** 

Author(s), online, add

Articles from Journals and Magazines (Things that are published periodically)

Author(s), "Article title," *Journal or Magazine Title*, vol. #, no. #, pp., Mo. year. DOI [If available online, add URL and/or DOI link]

#### **Print**

H. Y. Zhou and K. M. Hou, "Intelligent urban public transportation for accessibility dedicated to people with disabilities," *Sensors*, vol. 12, no. 8, pp. xx-xx, Aug. 2012.

#### **Online**

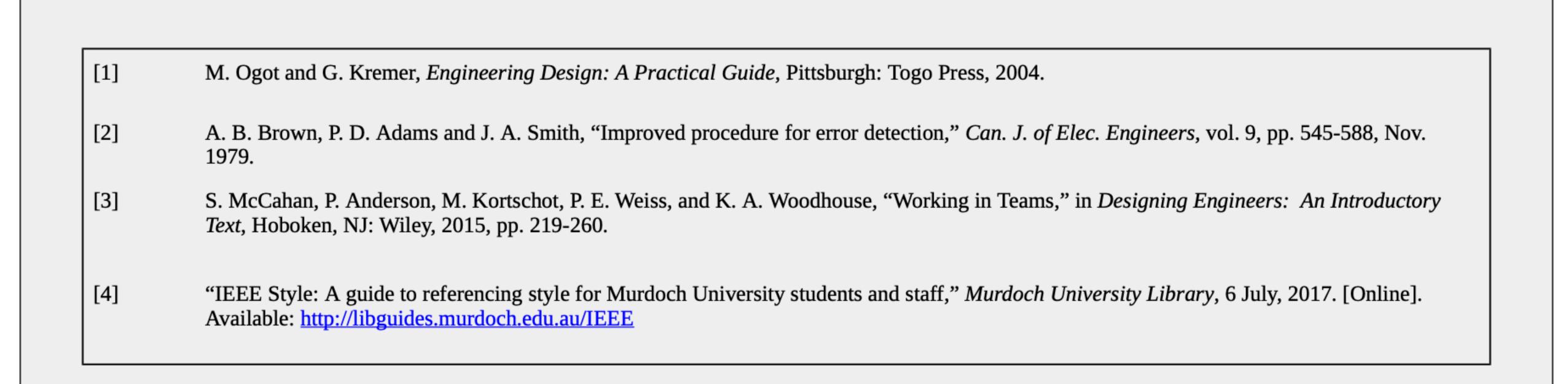
M. Sakals, "Eyes in the sky: Unmanned aerial vehicles in the natural resources sector," *Innovation Magazine* [Online], vol. 19, no. 5, pp. 17-19, Sept-Oct. 2015. Available: <a href="http://www.digitalityworks.com/Viewers/ViewIssue.aspx?IssueID=140&PageNo=1">http://www.digitalityworks.com/Viewers/ViewIssue.aspx?IssueID=140&PageNo=1</a>

#### **Conference Paper**

Author(s), "Title of paper," Presented at *Name of Conf.*, City of Conf., Abbrev. State/Prov., year, pp. xxx-xxx. Paper number [If available online, give URL or DOI].

# IEEE style

## See: Handouts for March 9



Is what you're saying specific, and objectively true?
Are citing fact by fact in your text?
Ate you citing sentences, ideas, and images as well as facts?
Are you applying the precise formatting for the citation style you're using?
Are you citing all questionable facts and every statement that is not yours? <b>If in doubt, cite.</b>

#### THE BIG IDEA

Businesses rely on facts & specifics to reduce uncertainty. Using facts & specifics, and showing that you do, reduces uncertainty in you.

#### References

- R. Blicq & L. Moretto, *Technically-Write!* Toronto: Pearson Canada Inc., 2012.
- T. Ewald, Writing in the Technical Fields: A Practical Guide, 3rd Edition, Toronto: Oxford University Press Canada, 2020.
- J. Lannon & D. Klepp, *Technical Communication*, 5th Cdn. Edition, Toronto: Pearson Canada Inc., 2012.
- S. Last, Technical Writing Essentials Introduction to Professional Communication in the Technical Fields, Victoria: University of Victoria, [Online]. Available: https://pressbooks.bccampus.ca/technicalwriting/