

Social Media and Crises

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DGM 730

Lecture 10

**Crisis Communication &
Using AI for Crisis Analysis**



Lec. 10

Lecture outline

Crisis Communication & Using AI for Crisis Analysis

- Internal Communication
- Influencer Communication
- Media Communication
- Communicating on Social Channels
- Crisis Scenario Planning
- AI Positioning within the Crisis Lifecycle
- Core AI Techniques for Crisis Analysis
- Crisis Informatics and Sensemaking
- Strengths and Limitations of AI in Crisis Analysis

تموضع الذكاء الاصطناعي ضمن دورة حياة الأزمة

التقنيات الأساسية للذكاء الاصطناعي في تحليل الأزمات

معلوماتية الأزمات وصناعة المعنى

نقاط القوة والقيود المرتبطة باستخدام الذكاء الاصطناعي في تحليل الأزمات

Lec. 10 Introduction

- ❑ The use of social media has increased in the world of communication, with X (Twitter) and Facebook as the most used platforms, and organizations have gained mileage by using it to communicate in a **much more effective and fast way with their customers** about their businesses as well as responding to queries and questions.
- ❑ However, in as much as the emergence of social media has brought in the advantage of fast, effective communication, it has also given room for **the fast spread of negative**. An organization depends on its **reputation**, it is a pertinent aspect that directly translates to **its financial achievement**, and with the emergence of social media, crisis might arise and spread faster than it can ever do on any other traditional forms of communication.

Lec. 10 Introduction

- ❑ Therefore, the success of any organization is highly dependent on what it says or the effort it makes after a crisis strike.
- ❑ For this reason, crisis management helps the companies in being able to address issues that threaten its reputation.
- ❑ It has been suggested that it is paramount for organizations to understand fully how to manage different kinds of crisis via social media.
- ❑ Wang (2015) observes that social media has been utilized for public relations since its advent in 2004, and this has had an influence on both individuals and the society.
- ❑ Artificial intelligence (AI) has become central to how organizations detect, interpret, and manage crises that unfold on social media platforms. AI-powered systems can monitor vast, real-time data streams, flag anomalies, analyze sentiment, and help crisis teams understand stakeholder concerns far faster than manual methods. However, these capabilities must be integrated thoughtfully into crisis communication strategies, with attention to ethics, bias, and the limits of automation.

Live

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Case Study

Amazon Crisis



اندلع حريق في وقت مبكر من يوم الجمعة دمر منشأة توزيع في جنوب كاليفورنيا كانت تُستخدم لشحن البضائع إلى عملاء أمازون. وقالت السلطات إن الموظفين تمكنوا من الخروج، ولم ترد تقارير عن وقوع إصابات.

Live

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Case Study

Amazon Crisis



<https://www.youtube.com/watch?v=dcBRQMIjbSE>

https://www.youtube.com/watch?v=_r3ec8cZApw

Live

Lec. 10 Case Study

حريق مستودع شركة amazon في ولاية كاليفورنيا

اشتعلت النيران مساء يوم الجمعة الموافق 5/7/2020 في مستودع تابع لشركة أمازون بريدلاندز بولاية كاليفورنيا الأمريكية، حيث أدى الحريق إلى انهيار أقسام كاملة من المستودع والسقف، اشتعلت النيران في حوالى الساعة 5:30 صباحًا بالتوقيت المحلي وفي غضون 15 دقيقة من الحريق انهار الجزء الخلفى من المبنى وانفجر، وصلت المساعدة المتبادلة من جميع أنحاء مقاطعة سان برناردينو والوكالات المحيطة الأخرى لمكافحة الحريق، حسبما قال المتحدث الرسمي بأسم بريدلاندز (كارل بيكر)

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Case Study

- قال بيكر إن حوالي 100 موظف تم إجلاؤهم وتمكنوا من الوصول إلى بر الأمان، ولم يتم الإبلاغ عن وقوع إصابات، ولم تؤثر النيران على مواقع قريبة من أمازون.
- التهمت النيران العديد من سيارات الشحن التي كانت بالخارج، لكن لحسن الحظ لم يصب أحد بأذى من جراء الواقعة
- شكك موظفا يدعى كريس سميث، في فعالية إجراءات السلامة بالشركة، عندما قال: لم أسمع أى إنذار للحريق، ولم أر أى رشاشات للمياه تعمل. لا شيء".
- قالت المتحدثه الرسمية بأسم أمازون ليزا ليفاندوفسكي في بيان: "نحن سعداء بأن الجميع في أمان، ونشكر جهود رجال الإطفاء المحليين والمستجيبين الأوائل".
- وأكدت ليزا ان أمازون تتوقع الحد الأدنى من التأثير على العملاء، حيث يمكن تلبية طلبات العملاء من مواقع أخرى.

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الاستراتيجية:

من تحليلي قامت شركة امازون باستخدام استراتيجية (وقف النمو) في مواجهة أزمة حريق المستودع في ولاية كاليفورنيا حيث تقبلت الامر الواقع ومدى ضخامة هذا الحريق وما ادى اليه وحاولت بشكل كبير ان تمنع الازمة من التدهور والحد من انتشار تأثير الحريق الى مستوى اداء الشركة.

الاستراتيجية الاعلامية:

استخدمت على النطاق الاعلامي استراتيجية (الاستجابة والدفاع) حيث قامت شركة امازون على اعداد دفاع يتضمن الاستعانة بخبراء الاعلام ومستشارين الازمات وبعض من المتحدثين الرسميين بأسم الولاية (كارل بيكر) وبأسم الشركة (ليزا ليفاندوفسكي) والخبراء المحققين الذين سيبحثون في كيفية حدوث حريق كبير في مبنى حديث يتضمن أحدث أنظمة الحماية من الحرائق.

المتحدث الرسمي:

من وجهة نظري كان أداء المتحدث الرسمي **(ليزا ليفاندوفسكي)** جيد جدًا نوعًا ما حيث ادلت ببيان رسمي:

(نحن سعداء بأن الجميع في أمان، ونشكر جهود رجال الإطفاء المحليين والمستجيبين الأوائل، وتم تشغيل هذا الموقع بواسطة طرف خارجي، وسندعمه طوال هذه العملية ولم تتأثر مواقع أمازون القريبة بالحريق الذي اجتاح المبنى بأكمله، وتتوقع الشركة أن يكون للحريق تأثير ضئيل على العملاء، وسيتم تنفيذ الطلبات من مواقع أخرى.)

خصائص المتحدث الرسمي:

(ليزا ليفاندوفسكي)

1 كان لديها القدرة على اكتساب المعلومات بسرعة والتعبير عنها بفعالية (حيث اندلع الحريق بتاريخ 5/7 يوم الجمعة، وصرح المتحدث الرسمي بمعلوماته وعبر عنها بفعالية بتاريخ 6/7 الموافق ليوم السبت وهذا يدل على السرعة في الاستجابة وجمع المعلومات).

2 تمتع المتحدث الرسمي بالهدوء والتأني حيث دل حديثه على ذلك ولم يظهر الضغط الشديد الذي كان يتعرض له تحت ظل هذه الازمة

3 كانت تتمتع بقدرة عالية على الاقناع والمصادقية وقدرة على التعبير عن المواقف المختلفة حيث تطرقت أولاً الى التوضيح انه لم يحدث اي اصابات وانها شاكره لذلك، ومن ثم وضحت من المشغل لهذا الموقع وان الشركة ستقوم باللازم لدعم الاطراف الخارجية في هذه الازمة ومن ثم عبرت عن اثار الحريق واتجهت بذكاء الى ما يهم الجمهور وما يؤثر به حيث اوضحت انه بالرغم من الازمة الحاصلة الا انه سيتم تنفيذ الطلبات من مواقع اخرى

Live

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Case Study

ومن جهة اخرى كان يفتقد المتحدث الرسمي الى بعض
الخصائص المهمة وهي:

التحاور والانصات
حيث لم تعطي مجالاً للاسئلة عن ما يخص الحريق ولم تدلي مرةً اخرى ببيان
آخر يتضمن بعض التحديثات الايجابية او السلبية عن ما حدث بل استخدمت
اساليب غامضة في هذه الازمة

1

تدريب الموظفين:

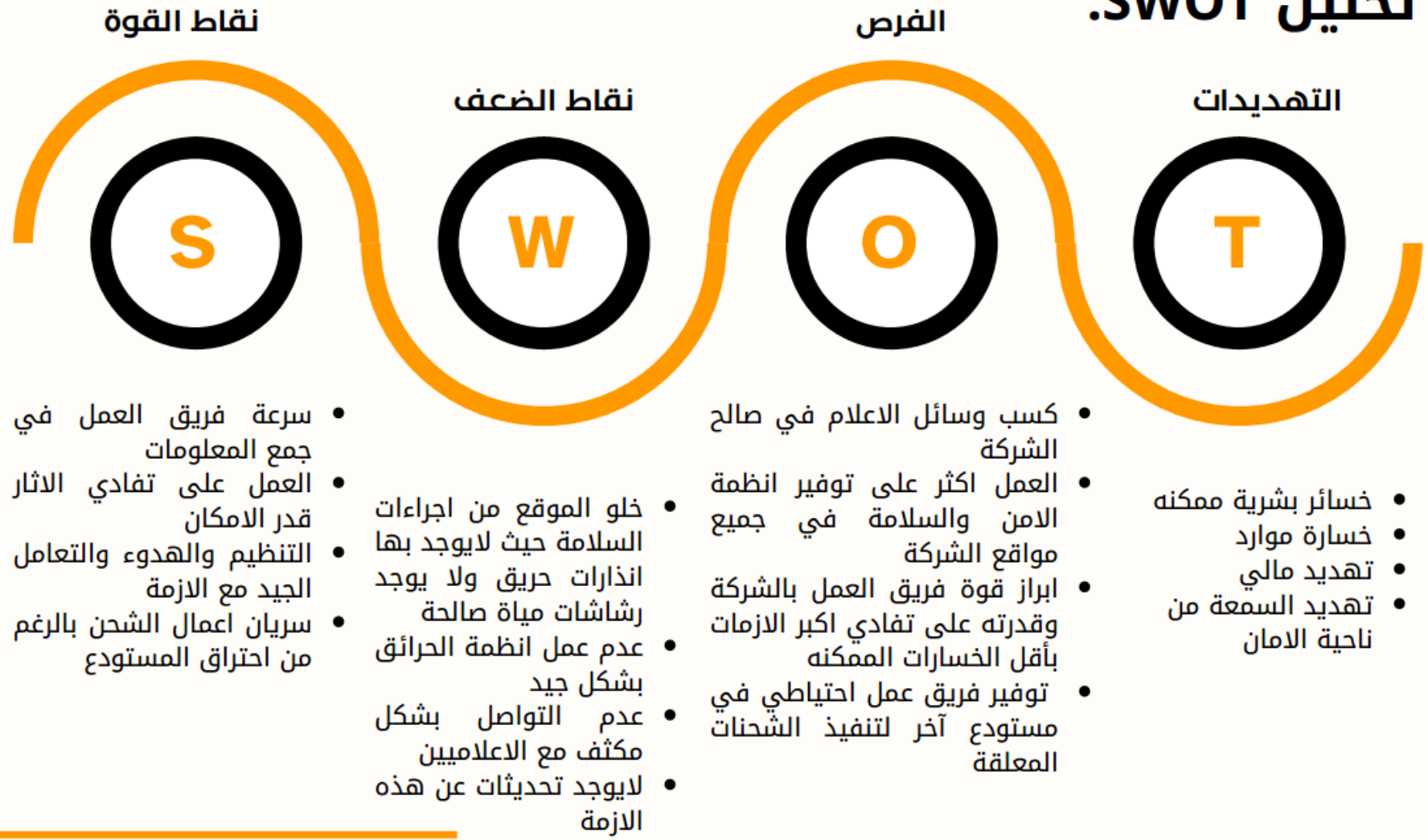
- حصل موظفين شركة Amazon على تدريبات كافية حتى يخرجوا بأرواحهم من هذا الحريق حيث لم تحدث اي اصابة او وفاة وهذا نتيجة لقوة تدريب الشركة لموظفيها على اسس الامن وتوفير مخارج امن كثيرة تضمن سلامة الموظفين
- تعاملت شركة Amazon بشكل جيد مع الشحنات التي كان يجب تسليمها خلال تلك الفترة حيث لم تجعل هذا الحريق عائق لشحن الطلبات وشغلت مواقع اخرى لتعمل بشكل مكثف بدلاً عن موقع Amazon في ولاية كاليفورنيا
- تدرب فريق ادارة الازمات بشكل ممتاز لإدارة هذه الازمة وخروجوا بأقل الخسارات الممكنة

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تحليل SWOT:



Live

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التوصيات لتحسين التعامل مع الازمة:

كان سيكون من الافضل لشركة Amazon لو كانت متفاعله اكثر مع الجمهور خلال هذه الازمة حيث يكون العميل على درايه تامه بجهود المنظمة لنيل رضى العملاء والخروج من هذه الازمة بأقل الخسارات

ومن جهة أخرى:

ارى ان فريق ادارة الازمات في شركة Amazon تعامل مع الازمة بشكل جيد حيث استغرق حل هذه الازمة أيام معدودة وانتهى الحديث عنها بعد اقل من شهر وعملوا على التحسينات اللازمة للحد من ضرر هذه الازمة مستقبلاً واستحدثت الشركة افضل أنظمة الحرائق لتفادي تكرار هذه الازمة في مواقع اخرى.

تحليل
الأزمة

مها سعود

Live

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Case Study: Major Fire at Amazon Warehouse - AI in Crisis Analysis

تحليل الأزمة
نتائج أدوات الذكاء الاصطناعي

 Gemini

Results
12 pages report

 Claude

Results
Detailed Report 2 Pages
with all required numbers

 NotebookLM

Results
5 Pages Report

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Internal Communication



Lec. 10 Internal Communication

- ❑ **Organizations communicate in two directions:** **internally** to staff and **externally** to clients, customers, shareholders, stakeholders, the media.
- ❑ **Faulty internal communications** can lead to mistakes, discouraged and unhappy staff, employees leaving the company.
- ❑ **Poor external communications** can damage image and sales. It really is that simple. Any overall management strategy needs a communications plan or the whole operation might fail.
- ❑ A communications audit **مراجعة / تدقيق / فحص** **analyzes an organization's practices** to reveal how effective they are—throughout a whole company or in specified parts of the organization. It can **pinpoint problem areas** such as frequent misunderstandings **سوء الفهم**, information blocks **حجب المعلومات**, information lacks **نقص**, **ازدواجية المعلومات** information duplication, **التحريف** misrepresentation. An audit could be part of a periodic health check, but it is especially **helpful at a time of change**: a merger or acquisition, **launch of a new product or service**, entry into new markets, for example.

Lec. 10 Internal Communication

- ❑ **Communication is a complex process with potential pitfalls الصعوبات at each stage.** Is the message clear? Is the medium for transmitting it appropriate? Has the recipient actually received it? If so, has it been understood? Has it had the desired effect? Does the recipient have a channel for feedback? Can the recipient understand how to provide the feedback? You thought you said one thing but when you check you find that a totally different message was actually received.
- ❑ **The evaluation report** will consider attitudes towards the communications (do people look forward to meetings or consider them a waste of time?); it will look at **the needs of different groups** (the most **appropriate way to deliver training**, for example) and **it will provide evidence of any problems** that need to be addressed.

Lec. 10 Internal Communication

❑ When a crisis occurs, it is essential to:

- Demonstrate your willingness to **cooperate** with officials, key audiences and industry support;
- **Provide** timely, accurate, and credible **information** regarding the situation;
- **Communicate** accurately and **effectively** to all target audiences;
- Are prepared to verify the training provided to workers;
- Act quickly and appropriately in **response to the media**;
- **Protect the name and reputation** of your company; and
- **Maintain** employee, producer, customer and industry **confidence**.

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Influencer Communication



Lec. 10 Influencer Communication

What is Influencer Communication?

التسويق المؤثر
أو التسويق عبر
المؤثرين

- Influencer Communications اتصالات المؤثرين is a messaging-based approach to **marketing communications** that ensures consistency in how brands are perceived in different mediums, such as news coverage, social media, speaking engagements, investor presentations, analyst reports, and content marketing.
- The relevance of social media influencers for organizations has grown rapidly during the last years. **Strategic communication** الاتصال الاستراتيجي faces the **challenge** to find new ways how to manage their **influencer activities** because established communication management concepts cannot simply be applied to influencers.

Lec. 10 Influencer Communication

- This is due to at least two characteristics of influencer communication:
- First**, many influencers strive to monetize their status as micro-celebrities. **Second**, influencers combine functions that different actors have fulfilled previously, e.g. creative agencies, advertising media, journalistic media, testimonial givers, and opinion leaders. This intermingling of functions in just one actor implies that routine procedures that are tailored to mono-functional actors may fall short.
- For example, organizations have to approach travel influencers differently than travel journalists.
- Due to these two characteristics, organizations' communication departments and their agencies are confronted with the task of adapting their routines to influencer communication or even developing new routines.

وبسبب هاتين الخاصيتين، تواجه أقسام الاتصال في المنظمات ووكالاتها مهمة تكيف إجراءاتها الروتينية وفقًا للتواصل مع المؤثرين أو حتى تطوير إجراءات جديدة.

وهذا
الاختلاف
بين
الوظائف
في جهة
فاعلة
واحدة فقط
يعني أن
الإجراءات
الروتينية
المصممة
خصيصًا
للجهات
الفاعلة
ذات
الوظيفة
الواحدة قد
تكون
قاصرة.

Lec. 10 Influencer Communication

- ❑ Yet despite the growing importance of influencer communication, little is **known about how organizations and agencies manage their influencer activities.**

Influencers as a new voice in strategic communication

- ❑ Early research on **social media influencers** has defined this stakeholder group as “**third party endorser الطرف الثالث المؤيد** who shape audience attitudes through blogs, tweets, and the use of other social media”

The Role of Internal Influencers in Communications Strategy

- ❑ Many companies have long relied on external influencers, such as **industry experts, analysts, and thought leaders**, to communicate their message. But the rise of **employee advocacy** has given way to a new breed of influencers—**internal influencers**. These key people, located within the heart of your business, can be crucial in shaping your organization’s employee communications strategy.

Lec. 10 Influencer Communication

- ❑ **Internal influencers are employees** who can shape their colleagues' opinions, beliefs, and behaviors. Sometimes referred to as employee influencers, these individuals are highly respected and trusted by their colleagues. By leveraging their power, internal influencers can significantly **impact your company's culture and communications**. ثقافة واتصالات الشركة.
- ❑ According to a study, 70% of employees are likelier to trust information about their company that they receive from their colleagues than from the company's official channels. When you think about it, this makes a ton of sense. Who better to understand the decisions made by the leadership team than those directly affected by them? Who better to disseminate a new policy or initiative than someone "on the inside"?

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Media Communication



Lec. 10 Media Communication

☐ Relationships & Preparation

**Good media relations begin
long before you are contacted.**

- ☐ Draft and implement a media policy.
- ☐ Educate employees on the policy.
- ☐ Identify and train a lead spokesperson.
- ☐ Establish relationships with reporters.
- ☐ Know your Target Audiences.
- ☐ Develop and know your Key and Secondary Messages.
- ☐ Anticipate and prepare for questions.
- ☐ Answer questions with your messages.

**No comment is usually no good.
If you hide from the media, most people
will suspect that you have something to hide.**

Lec. 10 Media Communication

❑ What to Do When a Reporter Calls :

Immediately

WHO is calling?

Get a name, title, media outlet, deadline.

Try to get a “time out”

Decide who will speak to the reporter

Decide your key messages

Think of likely questions...write them down

Rehearse, at least mentally

Lec. 10 Media Communication

❑ Your Target Audiences/Publics:

If you say something publicly

Who

will hear it and

How

will it affect them?

- ❑ The general public (current, past and future clients)
- ❑ Regulators and legislators المنظمين والمشرعين
- ❑ Employees
- ❑ The media

Lec. 10 Media Communication

☐ Develop Your Messages :

What you say will have an effect on each target audience.

So, what do you say?

Key Messages

- ☐ The Key Message is applicable to any audience.
- ☐ The Key Message should register an immediate impression.

Secondary Messages

- ☐ Secondary Messages are customized for specific audiences.
- ☐ Develop your messages before you talk with a reporter.
- ☐ Rehearse and repeat them during the interview, no matter the question.

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❑ Develop Your Messages : Appearance is critical ?

- ❑ Studies show upwards of 75 percent of information comes from the eyes – much less from the ears
- ❑ Need to look the role تحتاج إلى إلقاء نظرة على الدور
- ❑ Professional

Execution

Be brief.

Get your key messages across early and frequently.

Know when to stop talking.

Do not speculate المضاربة .

Avoid sarcasm سخرية .

Lec. 10 Media Communication

❑ Develop Your Messages : Execution

Always tell the truth. **NEVER** lie to a reporter!

Keep your cool.

Be positive, not negative.

Avoid slang language.

Build bridges from loaded questions to informative answers.

Repeat your key messages before you conclude.

Lec. 10 Media Communication

Evaluation

1. Read your clips; watch newscasts . نشرات الأخبار
2. Be critical of your performance.
3. Check your quotes — accurate or inaccurate?
4. Make corrections, if necessary.
5. Commend accuracy . أثني على الدقة
6. Follow up in writing. يجب أن تكون جميع المراسلات المتعلقة بمسألة ما متسقة
7. All correspondence on an issue must be consistent.
8. Send copies of the stories that support your messages to your key audiences. أرسل نسخًا من القصص التي تدعم رسائلك إلى جماهيرك الرئيسية.

Lec. 10

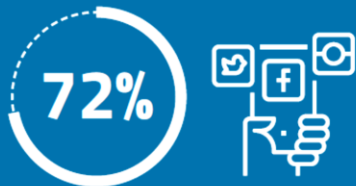
Communicating on Social Channels



Lec. 10 Communicating on Social Channels

- ❑ Social media are internet-based technologies that allow collaboration and **information sharing**. Importantly, social media enables the **two-way flow of information** where the public can contribute to content development and sharing. Social media technologies are often referred to as web 2.0 technologies as they move from a one-way dissemination model of information sharing to an **interactive environment** where communication and conversations flow in multiple directions.
- ❑ **The relationship between social media and crisis communications is an interesting and somehow controversial topic.** While it is undeniable that **social media platforms represent useful low-cost tools, their use during a crisis carries a number of risks** that we must consider carefully. Nowadays, organizations cannot avoid having a social media footprint and, whether they like it or not, **building a strong social media presence can make a difference during a crisis.**

Lec. 10 Communicating on Social Channels



of organizations use social media to communicate or gather information during a disruptive incident



The majority of respondents use either Twitter, Facebook or WhatsApp to gather real time information during a disruptive incident



believe it is the responsibility of social media companies to guarantee reliable communications platforms



agree that they should provide dedicated communications apps, such as Facebook's safety check system



The main benefits to using social media during a crisis are:



usability



the volume of information available



the low costs



Social Media in Crisis Communications Report 2020

Lec. 10 Communicating on Social Channels

- ❑ The majority (72%) of organizations rely on social media to communicate or gather information during a disruptive event. Most respondents revealed during a series of in-depth interviews that they monitor a wealth of threats, including reputation damage. While most of them perform this function internally, two stated that their organizations employ a third party to take care of social media monitoring. Out of the interviewees who analyze social media, nearly two-thirds use specific software to do so, while the remaining third adopt manual monitoring.
- ❑ The report highlights the attractiveness of social media for crisis communications, due to low costs and staff familiarity with them, among others. Further, professionals think that social media has a responsibility in guaranteeing a reliable service during an incident. Nearly half of the sample rely on social media to the extent which, in case these were unavailable, their crisis communications capabilities would be seriously limited.

ويسلط التقرير الضوء على جاذبية وسائل التواصل الاجتماعي للاتصالات في الأزمات، بسبب انخفاض تكاليفها وإلمام الموظفين بها، من بين أمور أخرى. علاوة على ذلك، يعتقد المحترفون أن وسائل التواصل الاجتماعي تتحمل مسؤولية ضمان خدمة موثوقة أثناء وقوع الحادث. ويعتمد ما يقرب من نصف العينة على وسائل التواصل الاجتماعي لدرجة أنه في حالة عدم توفرها، ستكون قدراتهم على الاتصال بالأزمات محدودة للغاية.

Lec. 10

Crisis Scenario Planning



Lec. 10 Crisis Scenario Planning

- ❑ A **crisis** is the ultimate **unplanned activity** and the ultimate test for managers. In a time of crisis, conventional management practices are inadequate and ways of responding usually insufficient. A **communications practitioner** with global experience, details **a well-managed crisis response** that **will leave stakeholders with a favorable impression and renewed confidence in the affected company.**
- 1. **Crisis prevention: The case for issues management**
 - ❑ The first task is to **identify crisis risks** or to recognize a crisis when it breaks out. From a communications standpoint, **a crisis is a business or organizational problem that is exposed to public attention, and that threatens a company's reputation** and its ability to conduct business.
 - ❑ Although **some risks are beyond a company's control**, others can be foreseen.

Lec. 10 Crisis Scenario Planning

- ❑ *Research shows that the vast majority of crises arise when companies fail to identify a potentially contentious issue at an earlier, more benign stage, and to develop a plan of action to manage the issue before the issue manages them.*

Creating a crisis communications plan

- ❑ The issues audit becomes the front end of a company's crisis communications plan, and arguably, the most important document in the plan. As a complement to a company's emergency procedures, **the crisis plan should contain detailed communications response procedures** in the event that any of the potential crises identified in the communications audit, or unforeseen external events, come to pass.

Testing the plan

- ❑ In order to ensure that the messages contained in the crisis plan are delivered effectively and with credibility, and that the plan can be carried out, it needs to be tested. This is where **crisis training and simulations** come in, as well as media training.

Lec. 10 Crisis Scenario Planning

2. Crisis Management: “Plan for the worst; hope for the best”

خطط للأسوأ؛ نأمل للأفضل

- ❑ Despite the best planning and foresight, organizations inevitably find themselves in a crisis from time to time.
- ❑ Research has discovered common internal reactions when the issue first breaks.
- ❑ Before the company knows about the incident, cameras are on the scene. In the absence of real information, an organization cannot respond meaningfully. However, that doesn't stop media from reporting on it live, minute by minute.
- ❑ As events escalate, management senses a loss of control over the issue.

قبل أن تعرف الشركة بالحدث، تكون الكاميرات في مكان الحادث. وفي غياب المعلومات الحقيقية، لا تستطيع المنظمة الاستجابة بشكل هادف. ومع ذلك، فإن هذا لا يمنع وسائل الإعلام من الإبلاغ عنها مباشرة، دقيقة بدقيقة. ومع تصاعد الأحداث، تشعر الإدارة بفقدان السيطرة على المشكلة.

Lec. 10 Crisis Scenario Planning

Assessing a crisis

One of the most vital skills a company can possess is the ability to determine if, **when and at what level of importance a crisis** has struck:

- ☐ Is this a crisis, or is it simply a continuing business problem coming to the surface?
- ☐ Is it confined to a local area, or does it have the potential to become a situation of national or international importance?
- ☐ Has someone verified the incident or crisis?
- ☐ What are the legal implications?
- ☐ What level of resources will be required to manage it?

هل هذه أزمة أم أنها مجرد مشكلة تجارية مستمرة تظهر على السطح؟
هل هي محصورة في منطقة محلية أم أنها لديها القدرة على التحول إلى موقف له أهمية وطنية أو دولية؟
هل قام أحد بالتحقق من الحادث أو الأزمة؟
ما هي الآثار القانونية؟
ما هو مستوى الموارد المطلوبة لإدارتها؟

Lec. 10 Crisis Scenario Planning

3. Crisis recovery: Regaining trust

- ❑ A company should examine the impact the incident has had on its brand(s) and reputation. If the brand has taken a hit, **a company may need to give consumers a reason to trust them again.**
- ❑ Companies should consider a broad range of **potential communication initiatives** to restore trust and loyalty.
- ❑ **Public opinion surveys** can track changes in attitudes towards a company in the weeks and months after reputation-focused programs are launched.

Lec. 10

AI Positioning within the Crisis Lifecycle



Lec. 10 AI Positioning within the Crisis Lifecycle

AI tools can be mapped onto the classic crisis lifecycle: pre-crisis (early warning), crisis (sensemaking and response), and post-crisis (evaluation and learning).

- **Pre-crisis (early warning):** Machine learning models monitor social media streams for anomalies in volume, sentiment, or topic patterns that may signal emerging issues, protests, disasters, or reputational threats.
- **Crisis (acute phase):** AI supports real-time situational awareness by classifying posts, mapping needs and emotions, and tracking how narratives evolve across platforms and geographies.
- **Post-crisis:** Historical AI analyses help evaluate which messages, channels, and timings were effective, informing revised crisis playbooks and simulations.

Lec. 10

Core AI Techniques for Crisis Analysis



Lec. 10 Core AI Techniques for Crisis Analysis

1. AI-Powered Social Listening and Sentiment Analysis

Social listening platforms increasingly rely on natural language processing (NLP) and machine learning to analyze sentiment, emotions, and emerging topics across social media, news, reviews, and forums. Key elements include:

- **Real-time sentiment analysis:** Models classify posts as positive, negative, or neutral, often with finer-grained emotion categories such as fear, anger, sadness, or hope.
- **Volume and velocity tracking:** Systems monitor sudden spikes in mentions, retweets, or specific crisis-related keywords and hashtags, serving as early signals of escalation.
- **Stakeholder segmentation:** AI clusters posts by audience type, geography, or platform, showing which groups are most affected or vocal.

Industry reports highlight that AI-driven sentiment tools can process thousands of posts per second and significantly reduce the time needed for crisis teams to understand public mood, identify hotspots, and adapt messaging.

Lec. 10 Core AI Techniques for Crisis Analysis

2. Early Crisis Detection and Anomaly Detection

Several research frameworks treat social media users as "social sensors" whose posts collectively indicate the onset of emergency events. Common technical elements include:

- **Text classification:** Models such as BERT-based architectures distinguish emergency-related posts from everyday chatter, improving signal-to-noise ratio in large data streams.
- **Time-series anomaly detection:** Algorithms detect unusual shifts in post frequency, sentiment, or hashtag usage, indicating potential crises or turning points in ongoing events.
- **Event clustering:** Unsupervised or semi-supervised methods group posts into discrete events based on shared "what, where, when" attributes and textual similarity, enabling monitoring of multiple simultaneous incidents.

Empirical work shows that these approaches can identify natural disasters, accidents, public health threats, and security incidents early enough to support more timely response by authorities and organizations.

Lec. 10 Core AI Techniques for Crisis Analysis

3. Topic Modeling and Humanitarian Needs Analysis

In natural disasters and humanitarian crises, AI-driven NLP can categorize social media posts into themes such as rescue requests, infrastructure damage, health needs, or offers of help.

- One study on the 2018 California Camp Fire used advanced **NLP to classify tweets** into six humanitarian topics and twelve emotion classes, revealing how concerns shifted from immediate safety to recovery over time.
- Earlier work on "**disaster analysis through tweets**" built sentiment classifiers to track emotional distress levels, supporting emergency responders in understanding community perceptions and needs.

These techniques provide crisis communicators with a more granular map of who needs what, where, and when, supporting targeted messaging and coordination with responders.

Lec. 10 Core AI Techniques for Crisis Analysis

4. Geospatial and Multilingual Crisis Mapping

Recent frameworks integrate NLP, named entity recognition, and spatial statistics to map crises in real time across locations and languages.

- An **AI and NLP** system using multilingual Twitter data applied sentiment analysis, entity recognition, and spatial clustering to identify disaster-affected locations and local sentiment trends in more than 100 languages.
- Outputs included geospatial heatmaps of distress and sentiment-based disaster intelligence, which can inform both operational response and communication priorities.

Lec. 10 Core AI Techniques for Crisis Analysis

5. Mental Health and Individual-Level Crisis Detection

Beyond collective crises, AI models now aim to detect early signs of mental health crises by analyzing linguistic and behavioral patterns on social platforms.

- A multimodal deep learning model trained on nearly one million social media posts across multiple languages achieved high accuracy in detecting signals related to depressive episodes, mania, suicidal ideation, and anxiety.
- The system detected crisis signals several days before human moderators intervened, suggesting potential for earlier support but also raising profound ethical and privacy concerns.

Lec. 10 Core AI Techniques for Crisis Analysis – AI Tools

CREXDATA

Critical Action Planning over Extreme-Scale Data

<https://crexdata.eu/>

Best for internal communications

everbridge
snapcomms  **itacit**

<https://itacit.com/internal-crisis-communication/>

<https://www.snapcomms.com/solutions/internal-crisis-communications>

Best for media relations

 **PRESSPAGE**

<https://presspage.com/crisis-communication-software>

Best for Arabic media monitoring
and crisis communication analysis

 **Crowd
Analyzer**

<https://crowdanalyzer.com/crisis-management/>

Lec. 10

Crisis Informatics and Sensemaking



Lec. 10 Crisis Informatics and Sensemaking

Crisis informatics conceptualizes social media as both data source and communication infrastructure during emergencies.

AI-enhanced social listening can support sensemaking by:

- **Surfacing emergent narratives, rumors, and misinformation that might undermine official messaging.**
- **Highlighting "sense gaps" where key questions or fears remain unaddressed, guiding more responsive communication.**
- **Enabling scenario modeling and game-theoretic simulations of how crises might escalate under different communication strategies.**

Lec. 10

Strengths and Limitations of AI in Crisis Analysis



Lec. 10 Strengths and Limitations of AI in Crisis Analysis

Strengths

- **Speed and scale:** AI can process high-volume, real-time data across platforms, languages, and regions far beyond human capacity, enabling earlier detection and more comprehensive situational awareness.
- **Pattern detection:** Machine learning identifies subtle shifts in sentiment, network structure, or topic combinations that might signal brewing crises before they are visible through traditional channels.
- **Decision support:** AI synthesizes heterogeneous data (social media, news, customer service logs) into dashboards that support faster, evidence-based crisis decisions.

Lec. 10

Amazon Crisis



A fire early Friday destroyed a Southern California distribution facility that was used to ship items to Amazon customers. Authorities said employees got out and there were no reports of injuries.

Lec. 10

Case Study: Major Fire at Amazon Warehouse

"A fire broke out on the evening of Friday, July 5, 2020, at an Amazon warehouse located in the city of Redlands, California. The fire led to the collapse of entire sections of the warehouse, including its roof. The blaze ignited at approximately 5:30 a.m. local time, and within 15 minutes, the rear part of the building had collapsed and exploded. Assistance arrived from across San Bernardino County and other neighboring agencies to battle the fire, according to Redlands spokesperson Carl Baker."

"Baker stated that about 100 employees were evacuated and reached safety, and no injuries were reported. Nearby Amazon facilities were also unaffected by the blaze."

"The fire engulfed several external delivery trucks, but no one was injured in the incident."

"An employee named Chris Smith questioned the effectiveness of the company's safety measures, saying: 'I didn't hear a fire alarm, and I didn't see any sprinklers working. Nothing!'"

"Amazon spokesperson Lisa Levandowski stated: 'We're glad everyone is safe, and we thank the firefighters and first responders.'"

"Lisa also confirmed that Amazon expects a limited impact on customers, as orders will be fulfilled from other locations."

Lec. 10

Case Study: Major Fire at Amazon Warehouse

Amazon adopted a containment strategy to manage the crisis of the warehouse fire in California. The company acknowledged the magnitude of the fire and its consequences while working to prevent the crisis from escalating and to minimize its impact on operations.

Media Strategy:
Defensive Response

Amazon implemented a defensive communications plan that included:

1. Hiring communications and media consultants.
2. Employing official spokespersons:
 - State representative: Carl Baker.
 - Company representative: Lisa Levandowski.
3. Involving investigation experts to examine the causes of the fire in a building that was assumed to have state-of-the-art fire prevention systems.

Lec. 10**Case Study: Major Fire at Amazon Warehouse**

Spokesperson Lisa Levandowski performed generally well, stating in an official statement:

"We are glad everyone is safe, and we thank the local firefighters and first responders. This site is operated by a third party, and we will support them during this crisis. Nearby Amazon sites were not affected by the fire that destroyed the building, and the company expects minimal impact on customers as orders will be fulfilled from other locations."

Spokesperson Lisa Levandowski's Qualities:

1. Speed in gathering and delivering information:
2. Calm under pressure
3. Persuasiveness and credibility
4. Focus on public concerns

Employee Training:

1. Amazon employees received sufficient training that enabled a safe evacuation without injuries.
2. Continuity of Logistics Operations
3. Crisis Management Team Efficiency

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Case Study: Major Fire at Amazon Warehouse - AI in Crisis Analysis

Amazon Fire Crisis Communication Analysis



Act as a media crisis analyst. Analyze the 2020 Amazon warehouse fire crisis in Southern California (Redlands distribution facility). Provide a comprehensive crisis communication analysis including quantitative data, social media sentiment, public reactions, and the three...

Results
12 pages report

◆ Show thinking ▼

Here's a research plan for that topic. If you need to update it, let me know!

🔒 What do you want to research?

+ 🔍 Deep research x

Thinking ▼ 🗣️

Lec. 10

Case Study: Major Fire at Amazon Warehouse - AI in Crisis Analysis



Act as a media crisis analyst. Analyze the 2020 Amazon warehouse fire crisis in Southern California (Redlands distribution facility). Provide a comprehensive crisis communication analysis including quantitative data, social media sentiment, public reactions, and the three crisis stages (pre-crisis, crisis response, post-crisis recovery).



Sonnet 4.6 Extended



FACILITY SIZE
600K
sq ft — 8 football fields

ESTIMATED DAMAGE
\$100M+
Hundreds of millions reported

EMPLOYEES EVACUATED
~100
Self-evacuated · 0 injuries

RESPONSE TIME
5.5 hrs
Fire controlled by 11:00 AM

THE THREE CRISIS STAGES

Pre-crisis Before June 5, 2020

- Amazon facing mounting COVID-19 workplace safety criticism at warehouses nationwide
- Kuehne+Nagel operating as 3rd-party logistics provider at new Redlands facility
- Fire safety briefing held the day before the incident (employee accounts)
- No documented pre-incident fire risk assessments made public
- Building described as having "latest fire protections" — later contested

Crisis response June 5–12, 2020

- 5:30 AM: Three-alarm fire erupts, I-10 westbound closed
- Roof and wall sections collapse within 15 minutes
- Multi-agency response across San Bernardino County
- Amazon issues single-sentence statement deflecting to Kuehne+Nagel
- Employee contradicts fire chief: "no alarms, no sprinklers"
- June 6: Second fire (solar panel malfunction, extinguished quickly)
- Crews remain on scene ~1 week to manage hotspots

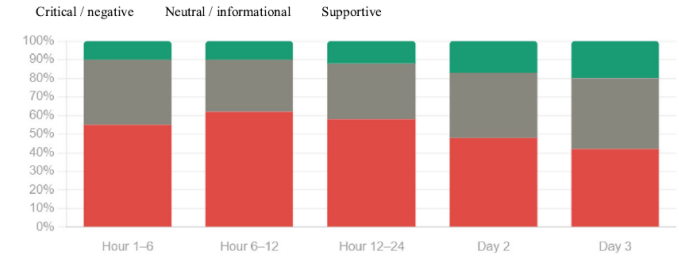
Post-crisis recovery June–October 2020

- ATF joins Redlands Fire + Police arson investigation
- Cause officially classified as "suspicious in nature"
- October 2020: \$5,000 ATF reward offered for tips
- Amazon claims "minimal customer impact" via network redistribution
- No public arrests in connection with the June 5 fire
- Labor advocacy groups cite incident in broader Amazon safety debate

Results

Detailed Report 2 Pages
with all required numbers

ESTIMATED SOCIAL MEDIA SENTIMENT — FIRST 72 HOURS



Key negative drivers

Amazon deflection language · fire system contradiction · COVID-era labor safety context · I-10 traffic disruption

Key positive signals

Zero injuries · rapid evacuation · multi-agency fire response praised · Amazon operational continuity

CRISIS COMMUNICATION SCORECARD

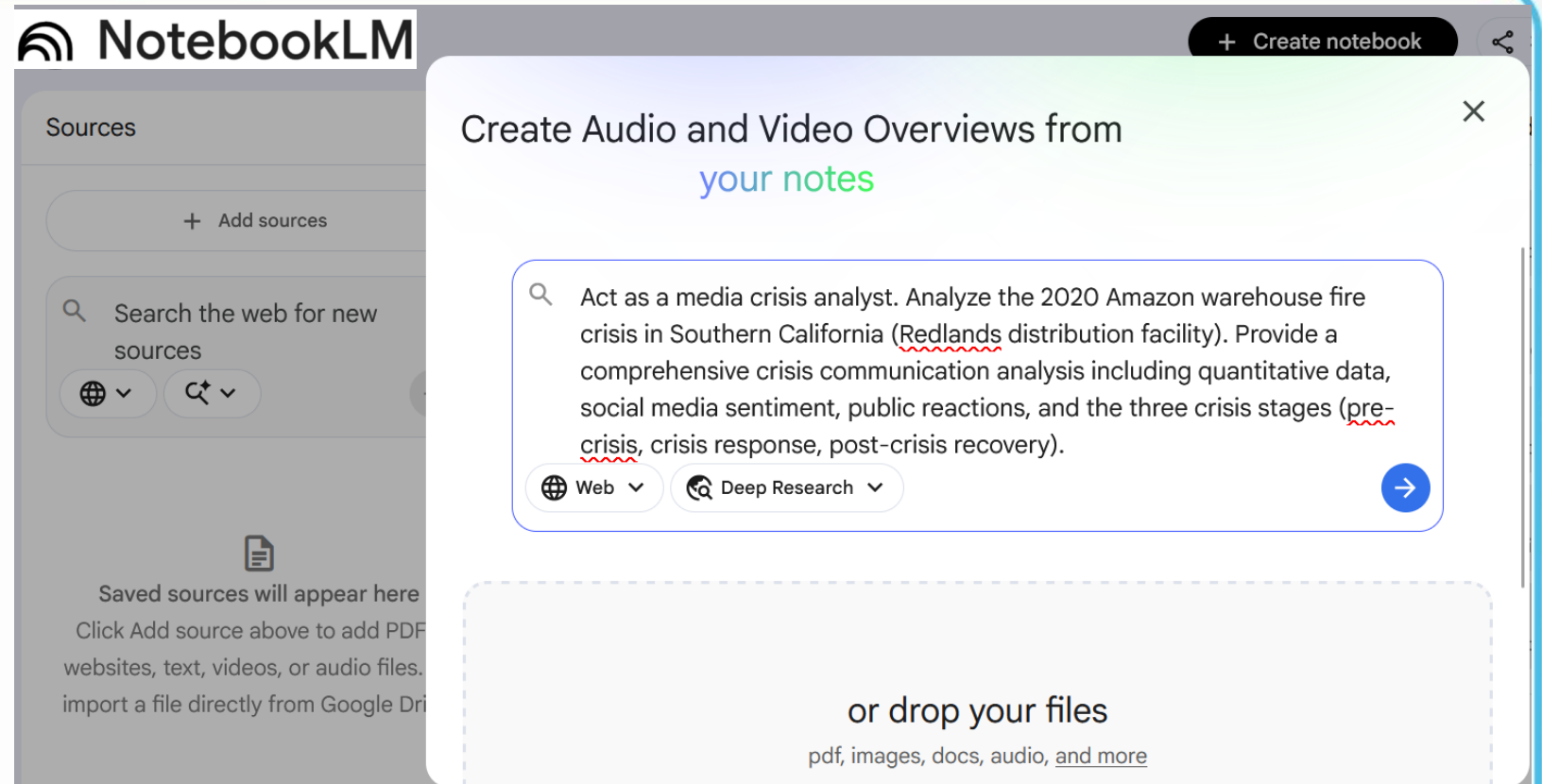
Speed of response	6/10	Transparency	3/10
Stakeholder empathy	5/10	Consistency of message	4/10
Community engagement	4/10	Employee safety messaging	7/10
Media relations	5/10	Long-term accountability	3/10
Overall crisis communication score			4.6 / 10
Adequate liability containment — insufficient stakeholder accountability			

Lec. 10

Case Study: Major Fire at Amazon Warehouse - AI in Crisis Analysis

Select
Import sources →
write the same prompt

Results
5 Pages Report



Lec. 10 Conclusion

Crisis Communication & Using AI for Crisis Analysis

- Internal Communication
- Influencer Communication
- Media Communication
- Communicating on Social Channels
- Crisis Scenario Planning
- AI Positioning within the Crisis Lifecycle
- Core AI Techniques for Crisis Analysis
- Crisis Informatics and Sensemaking
- Strengths and Limitations of AI in Crisis Analysis

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Thank You