The Future of AI in the Content Supply Chain

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The Story of AI

The background behind AI and where we’re at
Field of computer science that seeks to create intelligent machines that can replicate or exceed human intelligence. Enabling machines to learn from existing data and improve upon that data to make decisions or predictions. Layers of neural networks are used to process data and make decisions.

1956: Artificial Intelligence
1997: Machine Learning
2017: Deep Learning
2021: Generative AI

THE STORY OF AI

- Artificial Intelligence
  - Machine Learning
    - Deep Learning
      - Generative AI
        - Large Language Models
        - Image Generators
        - Audio Generators

1950s
TODAY
Understanding Generative AI Large Language Models

**AI Companies:**

Create architectures trained on broad “general knowledge” data sets.

**Models:**

These architectures are designed to process a range of data types of varying complexity. Models’ inputs can include images, sound, text, and more. “Large language models,” are a subset of AI models dealing with text data interpretation.

**Purpose-Built Model & Interface:**

A model is selected based on your area(s) of need, and “trained” on your proprietary data set. The resulting customized model’s interface and outputs are calibrated to your organization’s specific tasks and workflows, and made accessible to you through an API.
Opportunities for M&E AI Content Supply Chain

The potential impact of AI across business, product and tech within the M&E content supply chain
OPPORTUNITIES FOR M&E

Content Supply Chain

Ideation & Creation
- Planning & Acquisition
  - Greenlight Workflow
  - Rights Mgmt / Program Avails
  - Title Mgmt
  - Metadata Mgmt
  - Resource Mgmt
  - Order Mgmt
- Pre-Production
  - Script Mgmt
  - Pre Viz / Storyboarding
  - Watermarking / Fingerprinting
- Production
  - Capture / Encode
  - File Delivery
  - Ingest
  - Enanced
  - Dailies Workflow
  - Virtual Production
- Post Production
  - Mastering Workflow
  - Media Asset Mgmt
  - Logging & Automated QC
  - Visual / Sound Effects
  - AI Metadata Enrichment
  - Localization
- Content Distribution
  - Video CMS
  - Scheduling
  - Processing & Packaging
  - Content Delivery Network
  - Broadcast / Playout
  - AI Metadata Enrichment
  - Localization

Edit & Distribution
- Content Supply Chain

Marketing intelligence
- Digital Asset Mgmt
- Brand Mgmt
- Campaign Mgmt
- Content Mgmt System
- Loyalty Management

Data & analytics
- Data Lake
- Alerting & Monitoring
- AI Personalization
- CDP
- Attribution
- KPI & Trends Reporting

Enterprise platforms
- ERM
- PIM
- CRM
- Accessibility
- Workflow Orchestration
- Cloud Migration
- GDPR & Privacy

User Experience
- Web / Mobile / SmartTV / Set Top Box
- Digital Publishing
- AR / VR / Gaming

Consumption & Monetization
- Content Consumption
  - Players
  - Digital Rights Mgmt
  - Identity Mgmt
- Content Monetization
  - Insertion & Inventory Mgmt
  - Billing
  - Payments
  - E-Commerce
  - Recommendations

User Experience

Protect the craft. Reduce the stuff.
OPPORTUNITIES FOR M&E

Content Supply Chain

Gains By Product Development Lifecycle:

<table>
<thead>
<tr>
<th>Phase</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Strategy</td>
<td>60%</td>
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<tr>
<td>Product Design</td>
<td>38%</td>
</tr>
<tr>
<td>Product Engineering</td>
<td>43%</td>
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<tr>
<td>Operations</td>
<td>53%</td>
</tr>
<tr>
<td>Special Programs</td>
<td>57%</td>
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</tbody>
</table>
**Opportunities for M&E**

**AI Content Supply Chain – Ideation & Creation**

**Ideation & Creation**

- Draft **ideas and scripts** based on audience trends
- Draft **visual storyboards** based on the script and director’s vision
- Create **thematic script summaries** by character
- Draft **content valuation** based on script, pilot, similar titles, & audience trends
- Draft **version ordering** based on similar titles, genre, & cast
- Create **virtual set imagery** for virtual production stages based on script & director’s vision
- Pair with **intelligent metahumans as virtual actors, extras or script readers**

**Edit & Distribution**

- Post Production
- Content Distribution
**OPPORTUNITIES FOR M&E**

**AI Content Supply Chain – Edit & Distribution**

- **Auto tag metadata** based on objects, talent, & sentiment
- Assemble **stringouts** based on dialogue & camera angles
- Draft **rough cut, color correction** and **color grading** based on director style & genre
- Generate **visual effects** based on shot descriptions, storyboards, & director style
- Suggest **sound effects** to accompany scenes based on script & MAM assets
- Generate translated **subtitles, closed captions, dubbing scripts & voiceovers**
- Generate **classifications & content packages** based on schedule & delivery partners
AI Content Supply Chain – Consumption & Monetization

OPPORTUNITIES FOR M&E

Ideation & Creation
- Planning & Acquisition
- Pre-Production
- Production

Edit & Distribution
- Post Production
- Content Distribution

Consumption & Monetization
- Content Consumption
- User Experience
- Monetization

• Help distribute media content through various channels based on rights & avails
• Propose monetization strategies based on summarized customer behavior insights
• Predict user churn & proactively propose new product offer bundles
• Generate personalized ad / promo content based on user engagement
• Personalize user experience & recommendations based on viewing history & preferences
• Engage users through interactive features such as chatbots, quizzes, & games
• Pair with a conversational metahuman assistant for customer support
Things to Consider

The potential pitfalls and challenges around AI
The nuances of language can get lost
They require training just like the people
They don’t think or feel like humans do
Not a one-and-done, standalone solution
Fear, uncertainty, and doubt about their place in M&E
Your data’s biases become their biases
IP rights and laws around how we can use them are still being defined
Not always acceptable for high stakes

Expected

Unexpected
Compliance and Ethics Considerations

Organizations need to build technical capability to support new products, but it is equally important to consider governance, ethics, and legal processes around AI tools.

THINGS TO CONSIDER

- It is a probabilistic model – expect the unexpected
- You may need to hand over your data
- AI accumulates data... and may not want to give it back
THINGS TO CONSIDER

With Great (AI) Power Comes Great (AI) Responsibility

Causality
Enable learning not merely statistical associations between variables, but an underlying causal relationship.

Auditability
Evaluate algorithms, models, and datasets to analyze the operation, results, and effects.

Fairness
Non-discriminatory execution, mitigation of bias on people and social groups.

Transparency
Create interpretable and justifiable processes for research, development, and deployment.

Privacy
Properly handle sensitive data such as personal, financial, confidential, and intellectual property data.

Safety
Prevent misuse of sensitive data, neglectful practices for research and development, and unreliable production roll-outs.

Inclusivity
Ensure that data and use case diversity allow adequate coverage of all impacted individuals and social groups.

Security
Monitor vulnerability, create risk mitigation processes, harden AI models, and defend against malicious attempts.

Compliance
Maintain adherence to the regulatory and legal requirements through a fit for purpose governance model.

Reliability
Establish behavioral consistency & confidence in AI products outcomes as well as identify deviations from intentions and expectations.

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We’re still writing the narrative...

THINGS TO CONSIDER

AI

OPPORTUNITY

THREAT
Thank you!

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